



us coast guard band star spangled banner - Bing.mht



The Star-Spangled Banner - Oregon National Guard Band plays the U.S. National Anthem.mp4

Welcome to volume one the FACTs of how the S.E.G. was invented.

Professor John Roy Robert Searl own words about his life and work.

Most of his success was by accident, by being in the right place at the right time.

Pages 1 to 206.



UNCLASSIFIED

EDITION ONE.
VOLUME ONE.



Document for the introduction
Mathematics used in the S.E.G.

Volume one
Requirements under international Law

Approved by Secretary General.
And published under his authority.

First Edition – 2015

SEARL AEROSPACE INC

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This also includes the book of John Thomas.

The music written for me: by Barry Stroller is also protected.

This notice is to inform you that no part thereof can be reproduced without authority in writing from Professor Searl to do so.

Professor John Roy Robert Searl.



Searl agrees that everything conceived by man is impossible until someone say it is possible, and only then is the impossible made possible. The S.E.G. Searl agree has taken centuries to reach the possibility to manufacture it, which is the task of Searl Global Technologies to organize where to mass produce it and how to mass produce it, there are a number of legal units being set up for that task, the main part should be done in San Diego, California, USA. Sorry China that your legal side has failed to be completed so far to date. Still another legal paper: to get sign. What in Holland again.

2015: If Tony Blair was now Prime Minister of UK; would he now support full mass production of the SEG?

If we gave an SEG to Tony Blaire he could keep his promise in cleaning up the air – Searl wonder if he would?

Problem, the SEG does not produce much money in taxes –that is just one problem, but a large one.

Acting Sectary General: to the above name company.

SECRETARY OF STATE

**CERTIFICATE OF EXISTENCE
WITH STATUS IN GOOD STANDING**

I, ROSS MILLER, the duly elected and qualified Nevada Secretary of State, do hereby certify that I am, by the laws of said State, the custodian of the records relating to filings by corporations, non-profit corporations, corporation soles, limited-liability companies, limited partnerships, limited-liability partnerships and business trusts pursuant to Title 7 of the Nevada Revised Statutes which are either presently in a status of good standing or were in good standing for a time period subsequent of 1976 and am the proper officer to execute this certificate.

I further certify that the records of the Nevada Secretary of State, at the date of this certificate, evidence, **SEARL AEROSPACE CORPORATION**, as a corporation duly organized under the laws of Nevada and existing under and by virtue of the laws of the State of Nevada since July 13, 2010, and is in good standing in this state.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Great Seal of State, at my office on November 20, 2014.



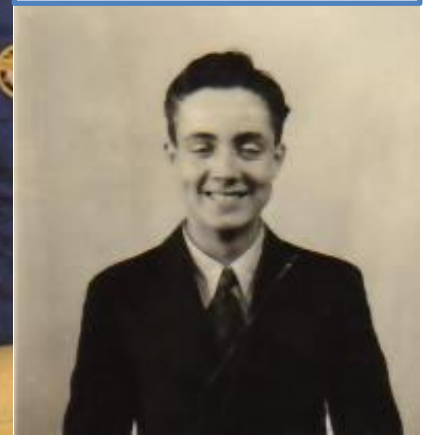
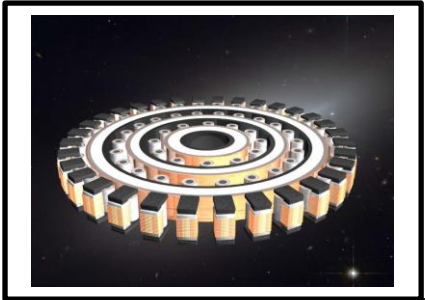
ROSS MILLER
Secretary of State

Electronic Certificate
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This certificate is proof that Searl Aerospace is a legal company and is conforming within the legal laws of the said State. I, Professor John Roy Robert Searl, hereby hold the position of Secretary General, to see that this company operates within the laws of this State; thereby continue to hold good standing within the said State. I shall try to get industry back on its feet within the USA in mass production of this power unit.



Professor John Roy Robert Searl: Author Reg: 1 898827: acting as Sectary General for Searl Global Technologies group of divisions. We are a Legal company operating under legal rules at all times.



I, Professor John Roy Robert Searl, of British Birth, hereby declare under oath, that the recent video release by Russell Anderson is no more than a con, using my name, technology and information and illustration without my consent. As from February 8th 2014 at 2200 hours G.M.T. Kirk Miller resigned from the consortium, on the grounds that he would not work with Fernando Morris, Thereby he lost all rights for a period of ten years; to use any knowledge he has gained from being involved with the consortium research and development program. This also applies to Bradley Lockerman, Kirk Miller, Philip Talbert, Russell Anderson, and John Thomas Jr. The video contain statements which they know are untrue, as being true.

It is my duty to the public; as acting Secretary General for the Searl Consortium to inform all of these offenses, which has taken place; that these videos are a con to rob the public of money. This information has been authorized by Professor John Roy Robert Searl: rightful owner of the technology and the inventor of the concept. At this present time Searl cannot confirm that Bruce Parsons was involved in this event or the takeover of SMI.

1957 – 1958: Geologist Vivian Fuchs (England): makes the first overland crossing of Antarctica. Searl was then 25 years old.

1958: The first submarine passes under the North Pole, USS NAUTILUS. Searl was just 26 years old, and he admits was excited by the news of that time. Searl work on the S.E.G. was in theory gathering pace as scientists added more information upon the subject as they witness it from lectures and demonstrations given by Searl. These are the FACTS of Searl time. Searl is interested to understand what are the FACTS of your time? Were you excited about what achievements were being made in both technology and science?

SEARL GLOBAL TECHNOLOGIES: LEGAL ISSUES (Brad Lockerman) DOC-M1-1-(vi)

Thomson Snell & Passmore

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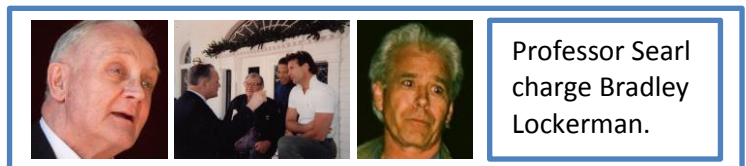
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Your Ref:
Our Ref: SES/83026-1/HCM
Date: 24 July 2007

Dear Professor Searl

Dispute with Bradley Lockerman (re: Filming)



I am writing to confirm receipt of your letter addressed to Nicky Androssov of 19th July setting out your dealings with Mr. Lockerman in 1996. As I understand it, Mr. Lockerman contacted you and on 31st June 1996, he presented a document for you to sign which he now alleges prevents you from entering into any agreement with any other body concerning the filming of your work or your life story.

He applied pressure upon you to sign the document by indicating that work on your life story would be starting within 2 weeks but nothing happened at that point in time.

However, subsequently as I understand it from your letter, there have been two sets of films work completed and I would be grateful if you could confirm exactly when and where the filming took place.

As you know, Miss Art has been in correspondence with this firm concerning your predicament and indeed she has agreed to be responsible for this firm's legal fees in connection with the preliminary work in corresponding with Mr. Lockerman at this stage to try and resolve the problem. If you have a copy of the document that you signed with Mr. Lockerman that would be useful, or otherwise I will have to write to him directly for confirmation of what it is he appears to be relying on.

With this letter I am sending out my firm's standard terms and conditions and I would be grateful if you would consider the same and let me have the Confirmation of instructions as soon as possible. I have asked Miss Art for Mr. Lockerman's address details.

I look forward to hearing from you.

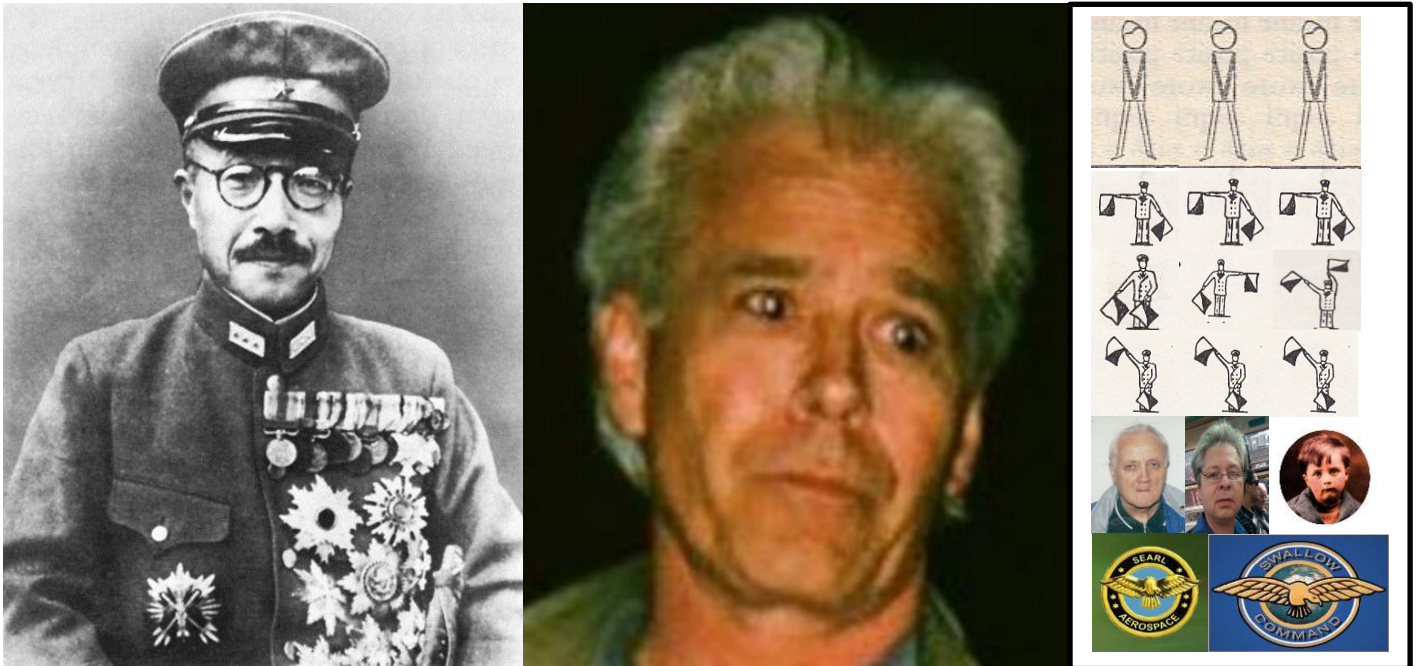
Yours Sincerely

S E Sullivan
Partner

NOTE: Searl could not photocopy the original letter, thus had to re-type it. This means the signature cannot be re-produced here. Searl confirm that this is a true copy of that letter with added photos of parties concern.

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Hello **Bradley K. Lockerman**, here is your boss, **Hideki Tojo**. Or should I address you as Hail Tojo? He would love to have giving you a damn good spanking, if that did not cure your insanity, he would had put you in a suicide plane to see if you could sink a USA battleship. Don't you wish that you had all those trimmings like him? I guess that he would have been kind enough to present you with some for your glory of missing the target ship. Whether you hit or miss you would be on your way to another world – which has no insanity there.

Searl states that Brad claimed to be his friend **REALLY?** Searl wanted him to be friend, even though he knew Brad to be a liar and, told Searl fibs a number of times; which is the first thing babies learn to do for protection. Searl learnt from medical research work, which is another book to be. How many people really understand what life is like when they accept a person as a friend then find they only plan to steal the technology from you?

Searl states, why there are so many other people that are so annoying. For if it weren't for all those total idiots, my life and yours would be great. After all, I'm a good driver, and good pilot plus a sensible friend, an intelligent co-worker, a caring mate, and, most of all, you know that Searl know how to stand in a line without cutting in.

Searl states that given the antics of the thronging rabble, however, searl says that if you are not angry, you are not paying attention, as the bumper sticker says: We might all be better off if we weren't paying attention: to the tail gating jerk behind us, the woman screeching into her cell phone, or the waiter who thinks he's **God's gift**, is that you **Stephen Donnelly**?

Searl reminds you that centuries before bumper stickers enriched our lives, an eighteenth-century poet Thomas Gray said "Ignorance is bliss", and no doubt it's still true. Searl have to accept that issue from Searl own experience over the years. If Brad had got M-G-M to make a movie on this technology, we would not have been in this mess today.

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Hello Russell Anderson, or more precisely HAIL GESTAPO DICTATOR ANDERSON. You are a very naughty boy, aren't you? Your boss shown here would have given you a jolly good spanking, if that did not cure your insanity he would pass you to the front line or pass you on to Adolf Hitler to give you the ultimate cure – THE GAS CHAMBER, which cures all mental illnesses. Sad they have passed on to a far better place which has no insanity.

The world is made up for the most part of morons and natural tyrants, sure of themselves, strong in their own opinions, never doubting anything, this is you Hail Anderson. The court is waiting for your appearance soon, to cure you of thinking that you actually own my technology; with a nice holiday in prison, which you sure have worked hard to earn. You should thank Brad for that wonderful experience yet to come soon, but he will join you for company, which is nice of him

In case you do not understand why I am hitting this mental idiotic person, because his insanity on videos are clearly to stop investors in vesting in **SMI**, to force investors to invest in an existing competitor named **EX-STI**, who has no rights to use my name or my terms used by me in respect of the technology; to raise funds, which they have done thus they have conned the public that, is a criminal offence, and is now in the hands of legal bodies to sort them out.

Searl states that, this document is to vent about why people are like this, and why all the stupid things they do, are so obvious to intelligent people and me, from not using their turn to believing that, the **S.E.G.** is feasible; they think they're the centre of the universe, to sweating the small stuff; to ignoring the fact that we're all just trying to make our way in this insanely world, but some of us are doing it a whole lot better than others, that is true Brad Lockerman, **STI** and Flowerbower; at least you think you are – which is your problem – not mine. Searl accepts that many people would sooner die than think. In fact, they do.

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FINANCIAL ADVISER TO SERVE 5 YEARS FOR FRAUD



This is Russell Anderson: On the desk top are two products stolen from **SMI**: He is also guilty of conning the public with fraud and deception to raise funds. Compulsive liar; Making statements which he knows are lies to get money, which I understand some fools have already given **STI** money, which means that they have created serious crime as **EX STI** do not own anything of my technology and are breaking the law by using my name and rights as theirs. Anyone joining them is just as guilty by association. And can be called to court to answer questions, which could carry prison sentence if proven guilty.

Searl states that all that man/woman does outwardly are but the expression and completion of his/her inward thought. To work effectively, he/she must think clearly **Flowerbower**; to act nobly, which **Flowerbower** you fail to have any mental capacity to do that as he/she must think nobly which puts you **Flowerbower** completely out of the running. Searl throughout this document: be showing clips of the many subjects which he had to learn, the full subjects will appear in special Documents to show you Searl education which he had to understand for the work which he is now undertaking again in the USA.

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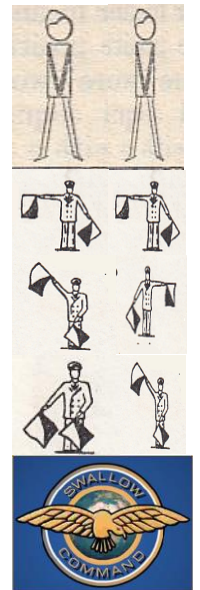
Hello **John Thomas Jr**: Welcome to your boss, **Heinrich Himmler**. Or should I call you Hail Himmler? You call yourself a friend – **Really?** Who wants a friend who sells them to an **EX-EXISTING COMPETITOR** for 30 pieces of silver? I do not need such a friend. Himmler would have sent you for the ultimate cure – the **GAS CHAMBER** for all cases of mental conditions. Sad to say that he has pass on to a much better world where there is no mental illnesses.

Searl states that the world is populated in the main by people who should not exist. Searl agrees that the problem with the gene pool is that there is no lifeguard. Searl feels sometimes think that God in creating man somewhat overestimated his ability. Is that correct Flowerbower?

Searl states that human beings, or should Searl state **HUMAN SAPIENS**, who are almost unique in having the **ability** to learn from the experience of others, are also remarkable for their apparent **disinclination** to do so. Searl agrees that there are only two things are infinite, the universe and human stupidity, and Searl is not sure about the former. Searl also accepts that if you expect the worst from a person, you can't ever be disappointed.

Searl says that such is the human race that it often appears to him that it does seem such a pity that **Noah**: didn't miss the boat. Searl agrees, if he created the perfect world, wouldn't your life be extremely flat. What; with nothing whatever to grumble about. We must, acknowledge, as it seems to Searl, that man with all his noble qualities; still bears in his bodily frame the indelible stamp of his lowly origin. Searl admits that the more humanity advances, the more it is degraded. Therefore, Searl feels no matter how hard you try you cannot win.

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Beware evil
minds, I hear!

Hello **Ken Gibbs**: here is your **Boss Hermann Goering**: Or should I call you **Hail Goering**? You have been a very **naughty boy**, haven't you? You thought you could steal my technology. Agree you helped to steal **£380.000.00** of my equipment including pension money, which made you proud. **Goering** would have given you to **Adolf Hitler** who had the cure for such people like you termed **THE GAS CHAMBER** which cures all mental states. Shame that **Hermann Goering**; has passed on to a better world where mental illness is not tolerated. I had given you warning when I saw you were planning to steal my technology that you would not win. It's now only time before you will get justice which you deserve. You can stick that religion of yours: up your rear end, as it will not save from your deserts. Any threats from any of them; I show no mercy to them as I informed you. When you received that justice you will wish that you had never been involved in that robbery of my property.

Searl states to Ken that since Searl no longer expect anything from mankind except madness, meanness, and mendacity: egotism, cowardice, and self-delusion like you Ken and gang, I have stopped being a misanthrope. Searl states that he only go out to get him a fresh appetite for being alone, plus fresh air to get away from your stink Ken!

Searl states that the bible tells us to love our neighbours, and also to love our enemies, such as you Ken and gang, plus FB and Flowerbower, probable because they are generally the same people. Searl say that it's too bad that stupidity isn't painful. Searl states, how he hate the attitude of ordinary people to life. How Searl loathe ordinariness! How from Searl soul he abhor nice simple people, with their eternal price list. It makes Searl blood boil. As Searl does everything for free, or you do; is to the buy the part and he fits for free! Searl access your level of human activity and came to the assumption that you are lower than any other animal on this planet. That should make you feel proud of your success Ken.



Hello **Martin Colborne**: here is your Boss **Joseph Goebbels**: or should I address you as **Hail Goebbels**? You did a great job of robbing me why I was in **hospital** you have been a really **bad naughty boy**, haven't you? I feel certain that **Goebbels** would have given you a right honorable spanking before he handed you over to **Adolf Hitler** to administrate the best treatment for your mental state – **THE GAS CHAMBER** which cures all mental problems. You fool everyone, even yourself and went to the bank smiling – that may soon be stopped that smile of yours by the court bill, guess you will be looking at a long free holiday inside for your crimes that you committed with **lies, fraud** and **deception**. You are lucky that **Joseph Goebbels** has gone to a better place that does not tolerate mental states such as yours **Martin**.

Searl states; that everyone is as God made him/her, and often a great deal worst. Searl says that some scientists claim that **hydrogen H. 1**. Because it is so plentiful, is the basic building block of the universe. Searl states that he could dispute that as Searl from experience can say that there is more **stupidity** than **Hydrogen H. 1**, and that is the basic building block of the universe. Searl feel that **Albert Einstein** would agree with that issue.

Searl cannot be blamed if he thinks everybody's nuts, based upon the **FACTS** of the millions who have died due to acts of nature, damage done to the planet by high winds. Yet they do nothing much to, if anything to protect themselves. I have given my working life to try to solve such problems, only to be **insulted** and **slander** by those whose **education** is that of a 5 year old child. There is an old saying never do unto others which you do not want done to you. Now all of them shall receive a thrashing from me in reply to their foolish wit of evil. From Searl point of view the chief **obstacle** to the progress of the **human race** is in **FACT** the **human race**. Searl agrees that everyone looks **retarded** once you set your mind to it. **Cynicism** Searl says is an unpleasant way of saying the truth. **NOTE: cynicism** is not **slander**, which are two different states. What is on **YouTube** is **slander** – what are in these books are education; quite a different world.

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Dear Anders Heerfordt, here is your Boss Joseph Goebbels, or was he your dad? By the way should I call you Hail Goebbels? You have been a very naughty boy, haven't you slandering me, that is a crime. I expect Goebbels would had given you a jolly good spanking then pass you over to Adolf Hitler for the ultimate cure for your mental state termed THE GAS CHAMBER, which cures all mental cases very fast. You thought you were great when you pass that crap to Charles Yost editor of Electric Spacecraft; I met him later in the States and gave him a right telling off that he was a mental ill person. He promised to redo another article, which he did. There sure appears that planet Earth is creating more insane people then sane ones. You are responsible by your crap cause millions to die and will die as this technology is not on the market.

Yes **Hail Anders Heerfordt Goebbels** the great defender of those **evil ones**, by destroying the good ones. I, Professor John Searl have yet to find time to talk to our **solicitors** to see if your name can be place on a court list to stand trial for **slander**. To press for heavy compensation: for the loss of funds, thus delaying the manufacturing of vital equipment to save lives.



Hello **Charles Yost**; I found your Boss, **Adolf Hitler**; he loved you for stopping people trying to make this planet a better world for all humankind. You sure made him happy. You are **technically guilty** of the deaths of millions for helping **Heerfordt** to spread his crap to stop investment in the work, which could had save many lives, including the losses that will happen before the technology needed gets out there to use.

People kick Searl, who is not responsible for the fact that there is no **S.E.Gs** being available in shops today. You should be kicking those who are responsible: who Searl shows in this document. It is time that they should be made to pay Searl a very high compensation for the slander that turn off investors, who were interested in funding this research and development for the benefits of all humankind regardless – poor or rich!

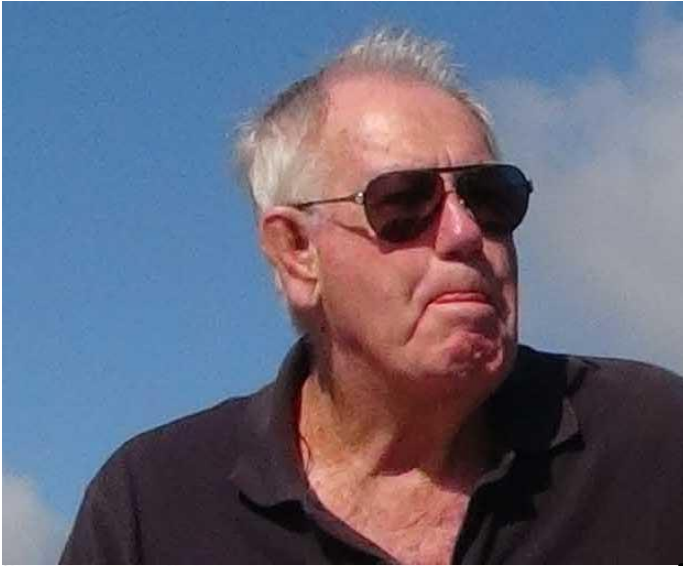


Hello **Gunnar Sandburg**; this is your boss; you are lucky he is not around to give you a good spanking for your **slander** and then send you for the **ultimate cure** for the **imbeciles** was **THE GAS CHAMBER**. Why were you so keen to steal my technology for **Brain Collins**? How much did he offer you to get me to make it for you so that you could give it to him? That was criminal. Shame on you working in a university that you should got into that crime condition. Did **you** and **Dennis Edwards** really think that I was wet behind the ears?

I confirm here, that I had warned both of them that **Brian Collins** was a **conman**, and had **con millions** out of **Australian farmers**. I guess **Collins** promised them millions to make it for him. He owes me a brand new car as he lied to the garage manager that he would send him the repair cost to install a new engine in the car right away on his mother's death bed, so I could drive him to Hastings a firm called West Lake where he had 2 of his super cars there for them to design and fit an engine cooling system. He has never replaced that car.

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Hello **Alan** and **Phil**: This is your Boss taking a bath. You both have been very **naughty boys**, haven't you? Thought you had/have taken over **SMI**, that is criminal. Good thing he has moved on to a better place or he would give you both a jolly good **spanking**, then the ultimate cure for insanity the **GAS CHAMBER** which cures all mental illnesses fast!



Hello **George Wingfield**: This is your boss **Martin Bormann**: Pity he is no longer around because he would love to give you a **jolly good spanking** then send you for the ultimate cure for insanity **THE GAS CHAMBER** its quick to cure all forms of insanity.

Hello **Jon King**: this is your Boss also; for failing to check out **George Wingfield** claims of **slander Martin Bormann** would had enjoyed giving you a great good spanking then send you for the ultimate cure **THE GAS CHAMBER**. Good for you that he has gone to a better place that does not tolerate insanity. By the way I am sorry that the aliens failed to correct you. You must had been in the wrong spot for collection.

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Hello **Peter King**: here is your dad **Adolf Hitler**, who wants to give you a **jolly good spanking** which I know that you will appreciate it as a reward for **slander** and **robbery**!

Searl agrees that you **planned**, and **implemented** than **executed** that plan with **Martin, Ken, Luis** and one other, which the **witness Keith Pearce** could not **identify** but thought he was local, of **£380,000.00 +**. This was my pension money. You were a **very naughty boy**, aren't you? You first poison by milk so when I came back from the post office you knew I would make a hot cup of coffee. Yes you were correct when I return from the post office I made a drink of hot coffee, some minutes later I became ill. I think you meant me to die in hospital, which meant you had no need to remove that green top 6 pint bottle, if I was not coming back again, that was a bad mistake.

Yes I was in hospital for few days due to the holiday; meant that I could not get released; if survived until the holiday was over. A beautiful plan, the problem was I did survive. I was told that you were cutting the cables from the equipment on the Saturday night the chap above me heard you moving the stuff about and thought it was me, he never knew that I was in hospital, thus, you were safe, wonderful plan. Yes you and your 4 mates filled the bathroom so I had a hell of task to get the rubbish out. But you see you left that milk bottle in the freeze with the evidence.

That was a terrible mistake. How many pills: you know, the ones you take to make yourself very ill in court and when legal people come to check if they can stop paying compensation so they feel sorry for you, which you put in that milk container, two to four? If it had occur to me before the doctor reach me to re-check the milk top colour, I would had that milk tested and you would had been arrested for attempted man slaughter. I gave you that 3 floor building rent free. Who was that 5th person? Richard Huntley or the Russian guy who work with Martin, or that Peter on the site who was out of work, who you pay to do the garden for you? Or was it Terry or was it Ross.

You planned it out very well and pulled it off with the watch out for the police by Keith Pearce, until he saw you taking out my large screens he stop helping you. You knew that you could fool the police because you were a member of my company; so you told Keith who told me all about the lies you told him, and it is duly recorded in my book of that time. Why did you not use that bottle of nitric acid you kept on about that you had, which you would blow up that building in Thatcham if the council fail to pay you for that added section. You recall for that break in, you used Ross, is he the one who was the 5th man?

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Hello **Ross Whately**: Here is your Boss **Rudolf Hess**; he is waiting to give you a truly honorable Gestapo spanking which you so rightly deserve, then pass you to Adolf Hitler for the final cure for insanity the **GAS CHAMBER** that cures all mental illnesses, You stole the yellow flight cell, were you the 5th person who robbed me of £380,000.00?

I recall how you broke in that flat where Peter King use to live to let him in to set a load of boxes up in the centre of the main room to light later if he lost the case of that money from the council he believed he would get. Though I told him that no way would he get a penny, which was precisely what happen. I understand Peter was now desperate to get money to cover his losses, as Searl had proven he was right; and Peter was wrong, he needed to get revenge.

Peter slip off secretly to do a deal with Martin and Ken, then on to a solicitors to set up the dirty work, telling me lies that he was meeting a big money man at Heathrow airport. Lairing by Peter is easier than telling the truth, as he had years of practice with the pension department and the courts. I can assure the readers that during those 5 hours of moving my equipment out of the house he worked harder and faster than the rest of the group who were involved in that robbery. There was far more heavy equipment than what I have here now. Had the pension people had seen that; they would had stopped his pension and made him refund what he had literary stolen from them.

Searl give you warning, never under any condition whatsoever give your invention to Martin/Ken party as they will rob you of everything, as they have done to me. Today they owe me over £500,000.00 in licences fees from the period they started the work to this present day, none of which has been paid me. This includes the bank interest on the £380.00.00 and the replacement of some of that equipment which they stole. Plus all the taxes that include which I had to pay from my pension money.

Searl states: how much more evil can people be? Now you understand why Searl say just think of how stupid the average person is, and then realize that half of them are even stupider. Humanity is a pigsty, where liars, hypocrites, and obscene in spirit congregate. Searl says that human beings cling to their delicious tyrannies, and to their exquisite nonsense; till death stares them in the face. Is that true hail Führer Peter King.

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FINANCIAL ADVISER TO SERVE 5 YEARS FOR FRAUD

- Here, Searl will name the criminals as to why there is no S.E.G.s on the market today.
- F.B. = Friedrich Bauer Internet Blocked investors – thereby causing millions of deaths.
- Flowerbower = internet – slanderous remarks – blocked investors – millions of deaths.
- Peter King = planned and implemented theft of £380.000. Of equipment thereby he also stole my confidential information and pension money.
- Martin Colborne = Bribed Peter King to put me in hospital for a period and planned it for a holiday so there would be less traffic around and people to witness the robbery to let his party in to steal the equipment.
- Ken Gibbs = party who helped with the robbery of my equipment.
- Luis Jarrio = party who helped to steal my equipment – 2 years early he had invested £2,000 to get me back to work on the S.E.G. He has forfeited that investment.
- There was one other that the witness Keith Pearce could not recognise, but felt it was a local person.
- Jon King = Reporter on UFO Reality magazine of Glastonbury, Somerset: did a slanderous article of George Wingfield the UFO nutter case in Glastonbury.
- Jon King + Tim Miles editor was order to come and meet me and team, which they did, I informed them that I would be taking them to court for slander. They promised to do an apology in the next issue and would never do another article by George Wingfield. The next issue had the apology in it. Thus, I cancelled the court hearing.
- The News of the World = did a massive slanderous article on me. I sent that national press to the government stating they should be horse whipped. Government reply that they had not seen that article, agreed it was slander, but then it's a free press the Prime minister get the same treatment. They promised me that they would inform their 14 laboratories to supply me any data I needed free for charge, which they did which saved me millions on research. I then wrote the News of World to thank them for doing what I could not do; was to get British Government to help me.
- Russell Anderson = Fraud and deception, Confidential information and property theft. He sold Searl technology for 30 pieces of silver to EX-S.T.I. a competitor company. Then continue putting out on the web fraud video clips clearly done by Bradley K. Lockerman. To stop investors: investing in SMI but to invest in EX-STI instead. We understand that they have made some cash investment by illegal means.
- John A. Thomas Jr = He supports as a member of EX-STI and sold confidential information to EX-STI after we invited him to visit and paid his fare to see that we were the winners. After which he informs us that he would stay with EX-STI as they promised him millions in a few months' time for his help. Clearly John Thomas is greedy as Russell Anderson is.

You will see what each of these have done and how they have committed crimes.

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Continue from page 18:

Bradley K. Lockerman = was supposed to be my friend, yet Brad lied to me many times. Brad actually stole my confidential information that was dishonesty done before my presence and other witnesses. But he was also passing as fact: Searl was unfit to travel to America based upon what the doctors had told him so they knew that they could take over SMI as Morris was in the UK with Searl. Well they tried, but I blocked them, and STI resigned on February 8th at 2200 hours GMT. Which Searl accepted, thereby they lost all rights to the technology and Searl name for 10 years.

EX-STI = Kirk Miller, Philip Talbert, Bruce Parson, Alan Fleming are the group which aided and abetted Russell to put out that conning videos to the public for funds.



Alan + Philip + Brad:

Russell Anderson:

Bruce Parson:

John Thomas Jr.

I guess you will be hearing more soon. **Remember that Brad, Russell, and John Thomas called me a friend. Yet they sold me to an EX-existing competitor STI.**

Dr. Stephen Donnelly = I am aware that he used the term Flowerbower, to cover his tracks. Peter King used that term as well. The key issue that struck me strange how did Dr. Terry Moore have an expensive men shopping visa slips showing Flowerbower name as the buyer? Terry once told me he had spoken to Flowerbower was it Stephen Donnelly. Also I am aware that he writes in a magazine called SPEPTICS mainly knocking UFO people. But I am not an U.F.O. person.

Searl wish to make it clear; that neither the TV station Pebble Mill, or Alan Titchmarsh had any idea who Searl was, as far as they were concerned Searl was just an ordinary person making claims. Luis Jarrio did not know either. That way Searl can study the person for their level of intelligence. Searl assessed Dr. Stephen Donnelly as equal to Gunnar of Sussex University. Searl was informed that a physicist would knock him down; hit back. But on entering the studio Searl could only see women who were just housewives and 3 men who most likely out of work. Not a group that would have any scientific knowledge. The information and demonstrations given by Donnelly; were kiddies stuff. Thus, all I had to do was sit there and smile at him. It was pure entertainment for the audience. He had no idea whatsoever in reality was involved. He had some old statement made by someone and used that as his knowledge base. That was a foolish thing to do; if you are intelligent person

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Hello **Dear Stephen Donnelly** you never knew who you were talking to, did you? I was smiling at your kiddie demonstrations. With that class of audience; I had no need to interfere with your entertainment of the children. Nevertheless, you have been a very **naughty boy**, haven't you? So I must call you **Gestapo Dictator – Hail Donnelly!** You have worked hard to earn that degree! Bless you my son! I had more degrees than you had and much higher to.

The nature of men and women – their essential nature – is so vile and despicable that if you were to portray a person as he really is like you Gestapo Dictator Donnelly, no one would believe me. Thus your metal state is safe, at least until people wake up to reality!



Hello FB – Friedrich Bauer: or more precisely Hail Führer FB. You have been a very naughty boy, haven't you? Your boss picture here not happy with your insane action on YouTube he would had gave you a jolly good spanking and if that did not cure your insanity, he would had use the ultimate cure – the GAS CHAMBER. This of cause cures all mental illnesses. You are lucky that your boss here has passed on to a far better place Hail FB! Pity though he might have sent you to the Russian front for them to terminate you! Who knows?

You can be forgiven for not understanding this attack on certain people, as you are not aware they are criminals who have technically caused the death of millions of people, and many more millions will yet have to die because of their slander on YouTube and other sites turn off backers from funding the development work which could have saved so many lives if it had been in place. I have no longer any mercy for them. If they want to challenge me in court I welcome it, but be aware that I am a fighter for the truth as other companies have discover by misfortune it cost them everything which they own.



The reason Searl is reprinting those newsletters: Is in answer to slanderous remarks about his lack of education, laying claims That Searl could not had invented the S.E.G. Searl never had the education or the funds by which to do it; upon websites.

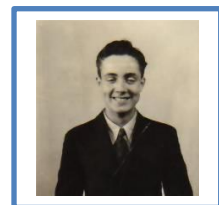
SEARL GLOBAL TECHNOLOGIES:

LOCATION: San Diego. U.S.A.

SUBJECT: D.C. Electronics.

AUTHOR: Professor John Roy Robert Searl.

STATUS: Head of Human Studies/Structures/Materials.



The full facts will be presented within this document exposing these evil minded people for all to see.

Searl will provide his electrical training the use of prefixes/ power of ten; though he was only 14 years and one month old, Searl really worked hard to achieve the skills needed for his employment.

In these early newsletters of Searl which he presented to the world; covered what he was studying in full detail, thus, all can witness how he learnt as Searl went on his way.

He studied through N.I.E, + B.I.E.T, Bennett College, Reading University and the Open University, I.C.S. Navy training at Russell Côtes Naval Academy where Mickey Rooney boy film star play the part of Lord Jeff – MGM 1938 at this training centre, with Freddie Bartholomew. There was Searl employment training to add to it, in the electrical domain. Plus: Searl medical training. Don't forget his pilot training at two flight schools. So Searl had no education, really?

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The right honourable Sir Winston Churchill + **The right honourable Professor John Searl** are both **British Bull dogs**. Neither will surrender to evil minded criminals, no matter what their threats are which they make. Do you get the message Peter King, Martin Colborne, Ken Gibbs, Bradley K. Lockerman, Russell Anderson, John Thomas Jr., Ross Whately, Anders Heerfordt, Dr Dennis Edwards, Gunner Sandburg, Friedrich Bauer, George Wingfield, Dr Stephen Donnelly, Anders Yost, Luis Jarillo, Alan, Phi and Kirk your intensions will not succeed, better to cease now your slander statements or the courts will sort then out for you.

We shall now start looking at **Searl education** more closely, from the **mathematics** side from his age of 14 years and one month for the first 12 months of his first job as an **electrical engineer apprentice**. From which we can understand how he was able to create the Concept of the **S.E.G.** that other experts cannot do. With questions for you to answer and peeps into clips from different college to which he studied, His flying training, his Navy training, his medical training, and of cause his electrical/electronic training as well. It is a **FACT** finding subject showing that those which the courts place him in care; was or should had helped him with his learning; instead they knocked him down, opposite to that of the courts intensions. Searl was not alone in this case; other children say the same thing.

You cannot blame Searl for what he says about the Homo sapiens, after the way he has been treated, robbed, slandered, threaten, lived on the road, and in a mine field, gave and help those who asked for help, only to be rejected by them afterwards. Searl is quite aware of the evil man/women can do to one another. Whereby, he gives love and hope to a world of sadness and a disparate need of help. This has been his whole adult life to solve these problems man has created by greed and ignorance. Searl states that you can get much further with a kind word and a gun than you can with a kind word alone. Searl attitude is that he loves mankind, its people Searl can't stand. Searl states what can we know? What are we all? Poor: silly half-brained things; peering out at the infinite, with the aspirations of angels and the instincts of beasts. Sorry about that but that is what I am observing of the Homo sapiens behaviour pattern. Searl have never claimed to be perfect, and never will.

1. On **May 2nd 1932**, a boy was born 6 weeks early in a workhouse at the **Downs, Newbury Road, Wantage, Berkshire** and was given a month to live. That boy was given the name of **John Roy Robert Searl**. Being born in a workhouse was a disgrace, as the father **Robert Henry Searl** was missing, and the mother **Violet Gertrude Maud Pearce**, could not cope.
2. Each time Searl father turn up, Searl was ill-treated; and after Searl was just 4 years he was taken to court to be place in care, until he was 18 years old. **16.01.1936** Robert Henry Searl deserted Violet Gertrude Maud Searl for the last time, and was never seen again.
3. **21 February 1936** Searl was removed to **Newbury P. L. Institution** as a place of safety.
4. **12th May 1936** he was place in the care of **Dr. Barnardos Homes, No. 8 Stepney Causeway, London E. 1** by the court as being the best option for him. But was it? He was Four years and ten days old.
5. **23 May 1936** Searl; just eleven days later the Homes placed him in foster care, with **Mrs. Anna Maria Hart** (formerly Leflev) at the **Chestnuts, Hestley Green, Near Eye** in **Suffolk**. Age four years and twenty one days old. The photo below, lady on your left in light colour dress was the daughter



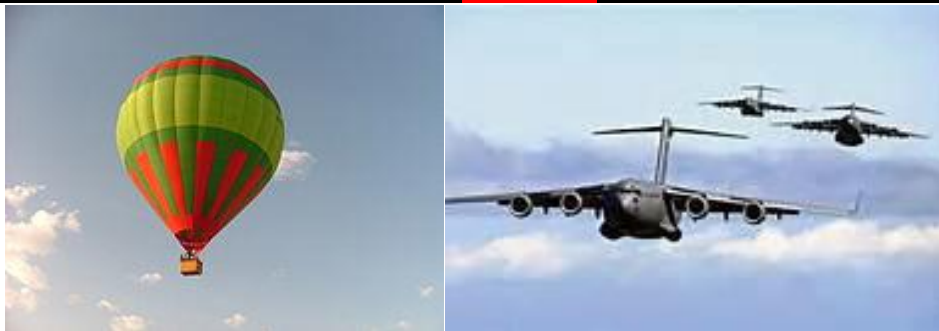
of Mrs. Anna Maria Hart. Who actually did all the caring as her mother was too ill to do the caring. Ellen Heart was a very extreme religious person. She beat me at least twice a week, sometimes made me take a hot bath and then she beat me with stinging netters, reason I had no idea, in the end I accepted that it was sexual frustration, as there was no men in the area, free for marriage.

On the **5th day of July 1944** on route to **Russell Coates Naval school**: age twelve years, two months and three days old.

6th day of July 1944 arrives at **Russell Coates Naval School, Seaview: Parkstone: Dorset**. Age: 12 years, two months and four days old to train for the navy. During the years at my foster home I received two types of dreams yet related. My future was based upon those dreams.

6. **9th day of July 1946**, Searl became again a human being and not a machine. And Searl was boarded out to Mrs. Tregoning who was a fanstatic lady a mother in many ways; at 30 Crawley Road, Wood Green, London N22, being Searl first accomodation. As to what happen there have already been aired and included in many books, therefore Searl will not add it here, but now tackle Searl education; the trouble which have and still do knock Searl from getting funding for his ideas.
7. **9th day of July 1946**: Searl started employment at BR Electrical Repairs: Grays Inn Road. London W. 1. At 9p per hour as an Electrical Engineer apprentice. This means Searl had to study through education units such as night schools, Universities etc. But he was determined to win, as the homes kept knocking him down.
8. **23rd March 1953** age 20 years (Reg.13) Electrical radio service engineer. Midlands Electricity Board sub-headquarters. What Searl achieved in his first 10 years of employment is indeed amazing as the time of study and two jobs to meet the cost of study. And getting married in that year was a big strain. But Searl never gave up. The difference now was the Homes were no longer knocking Searl down. Searl will become a foreman. But he had the wrong type of wife for success in his research studies. Searl move to Berkshire in the effect to solve the family problem. But this due to mass publicity made things even worse than before. In the wife case it was her workmates that generated the problem, that when Searl was famous he would not want her as a wife.

9. Searl will now go over what been stated here to give a fuller picture of his life as a child.
10. Searl gives praises upon people regardless of the evil they do to him.
11. Ellen Heart; Searl foster mother had taken botany degrees at Ipswich University. And she grew all the food as vegetables and care for the fruit trees which her father had planted of every kind, some of which were rare, not seen anywhere else. Ellen was a hard worker; her mother had a stroke and then another which meant that she was confined to bed, until the third stroke that ended her life, age 72 years. Searl was living there at that time. The road hedge was long in reference to length and each year she would trim it to keep it neat and tidy, agree as Searl age so he did what he could to help her in this work. Yes this should have been the perfect home for Searl. More so for Searl to lean how to grow plants etc.
12. There were farms in which Searl did in the end worked on why he was studying electronics.
13. Why did this structure failed to succeed?
14. Bear in mind that Searl over six years had two types of dreams, but they had a relationship, which meant no more at that time than a nightmare. Searl had to move for them to ignite into function.
15. nowhere else in the UK would you been able to find such a home layout that fitted those dreams perfect. An acute triangle which matches the strut design which the dreams showed. Then Searl had a school friend which was perfect for him and would have made him a good wife later. But there was a major problem, which had nothing to do with the dreams, or Jill the girlfriend.
16. There was something wrong with Ellen Heart. Was there hate between her and her mother? If so what was the cause of it? I can only go by the FACTS she never visited her mum's grave, nor was she buried with her mum. Instead she was buried maybe in Ipswich, certain not in Thorndon. Strange she died at the same age as here mum; 72 years old. Stranger still my nature mother also died at 72 years but buried in Newbury. Agree I have never visited her grave either because of the way she treated me, no matter how I helped her, after I found her, she was bent on creating trouble with the law for me. May be that relates to the law putting me into care back there in 1936?
17. There is another possibility why Ellen beat me so much, was sexual frustration, no males available in Thorndon district for marriage. Did she have a boyfriend while studying at Ipswich University and when her course was completed, her mum refused her to go and meet him? That would not be the first such case I have met. If only Ellen had treated me as a son, things would have turned out different, or would they have done so, or would the dreams push me out during the war years. So what happen to Jill? Searl heard that she married and moved to Ipswich to live. Searl has no idea if she is still alive or not. Searl say that would be nice to meet her; if only to see how life went for her.
18. So we all now understand that as a boy Searl failed badly at school, we now know why, Searl is clinical deaf, no one even took the trouble to find out what was wrong with him. They just had an excuse to drop his pants and beat his bare bottom to the delights of the girls. Agree, the teacher used her hand only. Surely she should have question a simple FACT that spanking did not change Searl learning condition. Searl guess that teacher is no longer with us today.
19. But Searl was learning by watching nature in action, so when Searl started work in any domain, he had this knowledge as a base to work from, which clearly served him well.




IMPORTANT

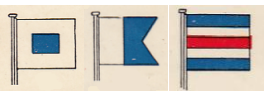






Nevertheless, the task of confronting all possible experience is beyond the power of any man; and we should be foolish to embark on it, unless we are prepared to go slowly, which is both simple and also universal. But not expecting to grasp their full significance. I can then hope gradually to build up a world picture of '**Star ship Explorer**'. At: first, in outline only, which I am doing, afterwards filling in details where I can find possible time. This can be called the method of 'progressive Approximation' and it will be discussed in detail in all my documents. Its chief character is that it starts with a total concept that is necessarily vague and faulty, rather than with a concept that, though perhaps precise and convincing, is necessarily abstract and incomplete.

I shall begin with the total givenness of all experience and without forgetting the limitations of our powers of perception and thought. I must see that the totality as one. I shall not look therein for simplicity or clarity. I shall not expect that I shall be able to express my intuitions in satisfactory language or to communicate them otherwise than most inadequately, until the research is complete at the laboratory in California, U.S.A on the Searl Effect Generator (S.E.G.). I have, moreover, to accept the inevitability of error in present data, also upon the structure data of the Inverse-Gravity-Vehicle (I.G.V.) data presented here, until it can be remodelled and tested.

At this time, I take for granted that the data released in these documents are correct, but as yet not tested. I feel certain that all data that has been released have been found to be correct. The immediacy of sense perception and the reliability of logical deduction have little part in the attempt to penetrate to the form of experience, which is in the true sense metaphysical – that is, beyond the senses and not subject to the limitations of thought. The concrete form for which I search is a mockery to the empiricist – but it is also a stumbling block to the rationalist. Moreover, I embark upon my task with the presupposition that it can never be finally accomplished without help. Nevertheless, it is the search, and effort to complete this project that matters. For it is the manifestation of the true human nature: the meaning of which I am striving understands.

The speed by which this project moves, does relate entirely too available funds, for the time being. Once the generator is operating, the finance situation, we hope will change for the better.



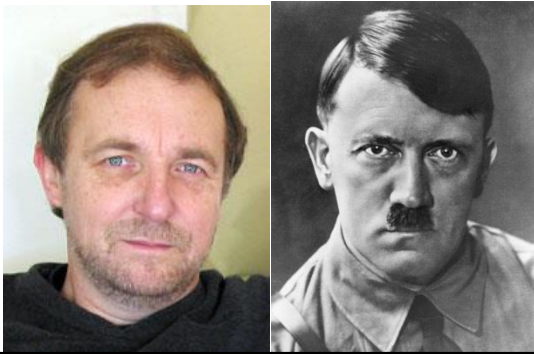
This document being part 1 of a set of documents to be released by the authority of the undersigned: Author Registration number: ISBN 1 898827. This part has been released to the public; as an education subjects; for those who are planning for a post in one of the different divisions of [Searl Global Technologies](#). To prepare them: for the test examinations which they have to pass.

Professor John Roy Robert Searl. Author Registration: ISBN 1 898827.
Secretary General to the Searl Global Technologies Consortium,

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ATTENTION

I, John Roy Robert Searl, hereby declare on oath that his investigation on the person called Flowerbower is now complete. Unfortunately it has thrown a list of names up who are in association with his magazine. Unfortunately each will have to be investigated by our legal boys to check if or not any one of them has slandered Searl in any copy of their magazine or on the internet. If anyone of them is found guilty they will appear in court with Steven Donnelly and so charged.



Hail Donnelly the almighty Dean of faculty of science, Dean of computing. Searl will agree that he is a Dean of **BS**. He calls himself a Professor really?

To: Searl mind: both of these images contain the same capacity of evil, dictator. In Donnelly case: to stop those outside of his box from getting funded. In Searl case Donnelly has turned out to be suffering from a personal complex with an obsession to act as GOD, as Searl has invented something which he cannot do. He is determined to stop him from getting funding thereby have caused the deaths of millions; and millions more soon by his obsession to stop this technology which could have saved many of those from dying.

His demonstration on Pebble Mill program Daytime Live was rather kids' stuff. Not impressive at all – talk crap that gave me a low IQ on him. I am talking FACTs as I was there being interview by Alan Titmarsh, and I have that on film, he cannot escape from that FACT! His obsession is a mental illness.

In Searl investigation; Searl was surprise that Collins had listed himself: as having worked at Sussex University – **really**- that has a ring to it – do you readers spot it? Yes, **Dr Edwards** and **Gunnar Sandburgh**, what a coincidence to find. Let us examine the FACTS. **Gunnar Sandburgh** was indeed communicating with **Paul Brown** in the USA, whose generator had failed to work to obtain the information from Searl so he could make one and claim it for **Brain Collins** in **Australia**. Who I got to know personally extremely well, no doubt Collins promised millions to **Paul Brown** if he got the **S.E.G.** for him, and called it **Brain Collins engine**, as Brain Collins had robbed farmers of Australia of millions of dollars on his generator which did not exist. Collins badly needs something that worked to show his investors, to save his neck. Likewise **Paul Brown** was in the same boat, He also needed a working unit to save his own neck the **S.E.G.** appear to be the ideal solution.

Here we have in reality two men desperate to get the **S.E.G.** at all cost as theirs; Searl can from his medical training understand their plight. FACT **Luis Jarrillo**, **Susan Mata** and **Searl** travelled together to **Sussex University** to meet both **Dr Edwards** and **Gunnar Sandburgh**. In which Searl discussed a contact that was not connected to **Brain Collins**.

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Searl accepts that **Gunnar Sandburgh** had told him lies; he insisted that **Dr Edwards** knew everything from him; about my work. Clearly that was not the case. **Dr Edwards** was surprised when Searl demanded **Gunnar** to tell him what he found at my home. **Dr Edwards** so far is very polite to us. Once **Dr Edwards** could see that I would not sign any contract until **Brain Collins** was got rid of, Which **Dr Edwards** assured me that in 3 months' time they would not be doing any more contracts with him as nothing yet has worked. Isn't that true **Dr Edwards**? But I wish all to understand that he took us to his laboratory to show us his research work; which was without question to Searl mind extremely interesting.

So we all left on a happy mood, a possible contract in 3 months' time. So what happen with **Dr Dennis Edward** and **Gunnar Sandburgh**? Now by complete accident there appear to be a solution to that question. Did **Dr Edwards** meet up with so-call **Professor Stephen Donnelly / Professor Steve Donnelly** and **Donnelly** suggested to him to **knock Searl down** if investors contact him. Than Searl will give you the technology free? Searl ask: is that what really happen as it fits the picture perfect. Other companies have tried that and failed.

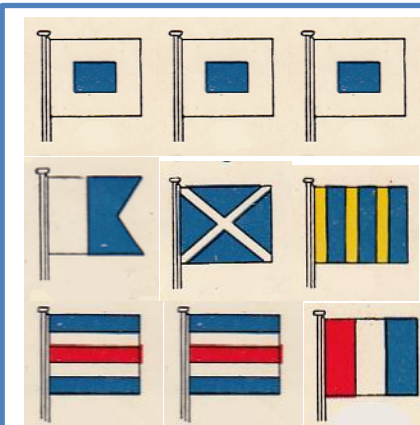
To Searl surprise there are lots of Donnelly's listed, but only one that fits the picture 100%. I see also Australia is connected too – interesting about something that happens there, which we shall deal with later after legally investigations are completed. It appears that **Donnelly** was born in **Liverpool UK**. He is old enough to understand what the term **slander** means, **defamation of character**, not only against Searl but also against Morris and all of Searl registered company's therefore he should be striped and horse whipped and given 20 years of hard labour. Including: all of his associates who have copy his insanity on the web. For they are all equally guilty of the deaths of millions of incidence people by stopping this technology reaching the marketplace which could had save many lives.

Searl ask what make people **evil. FAILURE** in life is known as one reason; another is **greed** and **ignorance** which are 2 very serious mental states. Together they have generated all the wars and terrorists movements which we have seen and are still witnessing. Is **Donnelly** a **spoiled child**? To Searl training that appears to be a possibility to his hate in the world, a show off, yes there is no doubt there. It is a common fault that people who call themselves **professors** or **Doctor** make. Now you know the **FACTS**, if its needed later I can name all those who are listed as being in association with him. Much of the claims which he makes about himself I have to admit I don't believe him. It's up to you if you do, that is your human rights.

I shall return to my normal discussion from where I left off, I apologies for the break in my subject being communicated to you, I felt it was time to stop this crap on YouTube from Donnelly and friends. You now have been presented with the absolute truth upon Flowerbower or should we say **Hail God Flowerbower** the evil of the world. It is time to stop this hate towards those who give everything and go without to help this planet, when they eat like kings and enjoy holidays, which as yet I have not experience such luxury as **Dr Donnelly** has.

Sussex University could have had an honest contract for the **S.E.G** then why did they reject such an opportunity? I have to agree that on meeting **Dr. Edwards**, my opinion was that he was honest person, very interested in maglev and would be an interesting partner in this new approach of mine. **Dr. Edwards's** problem was that **Gunnar Sandburg** had not informed him of the **FACTs** regarding this technology. Sadly he has destroyed that image which I had conceived of **Dr. Edward's**; by the slander which he passed to would be investors. The damage has been done, the dead cannot be recovered. But the future could be change but only if we want to change it. If we want to help this planet we must make a commitment to help it to recover, or accept the only other choice term death. The choice is yours to make.

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We are watching you 3 beware!



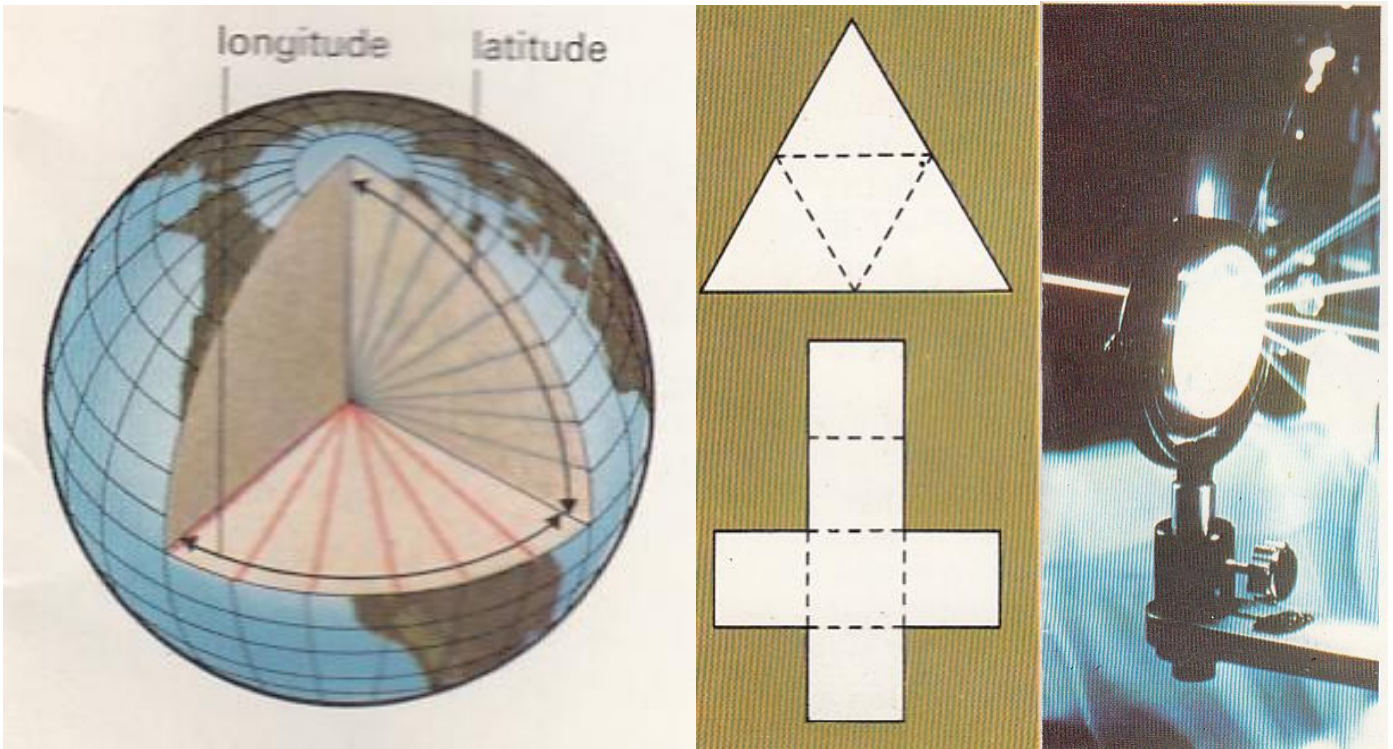
Just 3 of the men who are stopping you from having the **S.E.G.**, and therefore are technical responsible for the millions who have died and will soon die because the technology is being blocked from the marketplace that could had helped and would be helping to save lives.

From left is Alan, Phil, and Brad, Yes, they all started off ok, then the money value popped up; so they had to steal it at all cost, the same old story every year. When will it ever stop? Brad particular told everyone how this worked failed over the years, yet he has done precisely the same as them. That is the sad part of my life; let's look at my learning side now.

Searl states that there are two distinct types of electrical charges, as there are human beings. Because these two types of charges have opposite characteristics, they have been given the names **positive** and **negative**, which are similar in the Homo sapiens case – **greedy** and not so **greedy**. Searl states that the electrical charge associated with the electron has been arbitrarily given the name **negative**. On the other hand **Flowerbower**, the electrical charge associated with the proton is considered positive. Searl remind you that the neutron has no electrical charge at all. Searl state that it is electrically neutral and therefore, plays no known role in electricity. Searl says that is somewhat similar to you **Flowerbower**, but not in the electrical sense but in the intelligent sense as you show on the internet that you do not have any common sense at all.

Flowerbower you boasted years ago now; that you were writing a book about me – instead it happens to be; me writing a book about you, Isn't that exciting **Flowerbower**? Anyone who have used the term **Flowerbower** on the internet must feel like a ripe idiot or an over ripe banana say the least. I do not worry what you say about me, as it is you who got to worry as to what the Judge in court is going to do to you, which I trust will be rather painful to you with my blessings. Because you are the conman, who technically have killed millions of people to your credit, you have done better than **terrorist** have done and in **FACT** better than **Adolf Hitler** did in world war II achieved – yet goody goodies cannot see what you have and are doing to the world. They are blind. Or is it that they just don't care as it has not yet affected them. This is one of my major problems from where I am sitting. I wish so much that it was the opposite statement I could make; at last many are helping this planet.

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These subjects are just a hair breath of the knowledge which Searl must understand for his research work. Yet Idiots like **Flowerbower** knock Searl education upon hearing that he had no formal education. When they themselves have no idea about these subjects are about; which Searl must work with. Just these 3 images deals with mathematics which has taken many centuries to create, the above details:

- I. **Physical geography: The physical geographer describes land and sea, and draws maps showing distances, heights and kinds of terrain. He/she studies, too, the distribution of the different kinds of soil and of rocks beneath the surface.**

CAVE – Visit caves and study the origin, the minerals and the wildlife.

MAP MAKING – Compare the shape of countries in different projections and on a globe.

TROPICS – Calculate the distance from the Tropic of Cancer to the Tropic of Capricorn.

Yes, you are confused, what is this to do with the **S.E.G.** The truth indirectly: everything. Man must explore space to learn and understand why other planets don't have life, or if they had, why has it died and how old is that planet in respect to planet Earth? Has that planet any value to planet Earth, by which the death of planet Earth could be slowed down. These are just a few questions Searl needs to know with millions of more questions need to be answered. For example the smallest particle in the universe must contain order of function, for if this was not true, what we observed would be impossible to see. All that we observed is just an illusion until you actually touch it, and then it is reality.

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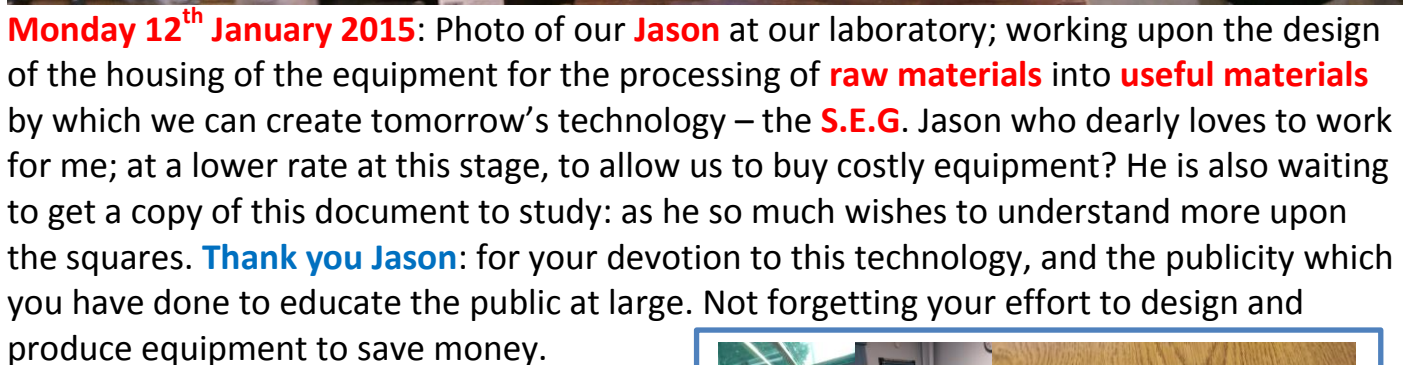
Wednesday 14th January 2015 at 1310 hours at the **Gillespie Airfield café**, who is keeping me alive to do the tasks which I must do to get this **advanced technology** to the market place. You can witness on her face she is very happy to be doing just that as a **contribution to the research development of the future to be**. You can witness **Flowerbower** that I am here and kicking; so your future does not look good at this time, nor do **EX-STI** either.

Continue with Searl knowledge that must be: to be able to successfully complete his dreams.

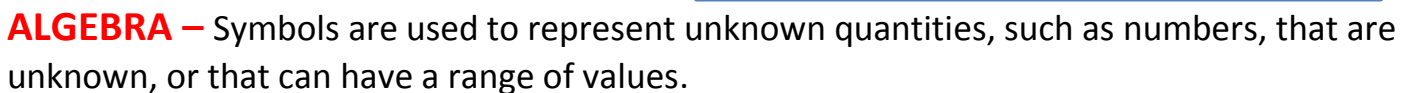
Mathematics – is used to some extent in every science, though it is more important in some, such as **physics**, which includes the **Searl technology**; then to others, such as botany. The result of every measurement is a number, which is without question what the **Searl Technology** is all about, and complicated calculations are often necessary before the scientist understands the meaning of the results. Searl states that **mathematics** is also a fascinating study in itself and Searl should know from experience, and can be an entertaining pastime.

AUTOMATION – Timing traffic signals to see if they vary according to traffic conditions or a set sequence. The timing: of the **magnetic impression**; upon the metal surface during magnetising. The roller sets varying acceleration upon demand.

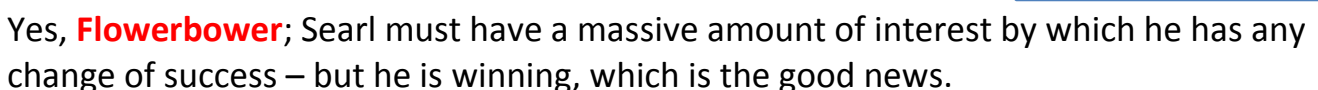
GRAPH – Plotting a chart of spending on different items such as **equipment** or **material** and **tools**; and **workforce** needed, which includes: **Toilet rolls, towels, food** and **cleaning materials**, unfortunate, all of which cost money.



MEASUREMENT – making a screw gauge Etc.



SET THEORY – Solve a Moon shot problem using a Venn diagram.



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Wednesday 14TH January 2015: Here is where the lady in photo on page 102, desire or wish to spend a special day. Searl will make her dream come true; with the help of some of my workforce. That will be soon, but may be delay as I must return to the UK on business. This covers legal issues as well.

Let Searl continue with his education:



ARITHMETTIC – Deals with counting. A convenient system of writing numbers is an important aid to counting. Many devices have been invented since Searl young days to make counting easier.

Abacus – Multiplication with an abacus – that technology does go back to ancient times.

Arithmetic – Make your own multiplication rods. Make magic squares. Use Eratosthenes sieve to find prime numbers.

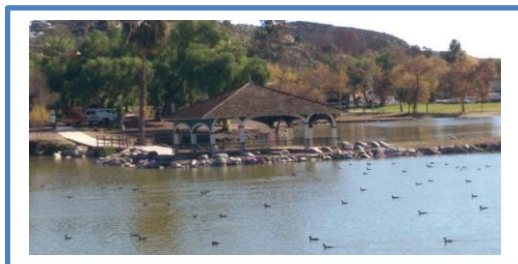
Binary number: – Write out a number in its binary form. These are only the beginning of Searl knowledge base, which is critical for the undertaking that he has set himself for your future wellbeing.

Calculator – How does a mileage counter carry one?

Slide Rule - make your own slide rule.

These are just a few examples Searl must be able to do

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elements in order of atomic number (continued)

name	symbol	atomic number	atomic weight	electronic structure	valence	density (water = 1)	melting point (°F)
Xenon	Xe	54	131.30	2 8 18 18 8	0	gas	-111.9
Caesium	Cs	55	132.905	2 8 18 18 8 1	1	1.873	28.40
Barium	Ba	56	137.34	2 8 18 18 8 2	2	3.5	725
Lanthanum	La	57	138.905	2 8 18 18 9 2	3	6.145	920
Cerium	Ce	58	140.12	2 8 18 20 8 2	3 or 4	6.657	798
Praseodymium	Pr	59	140.908	2 8 18 21 8 2	3 or 4	6.64–6.77	931
Neodymium	Nd	60	144.24	2 8 18 22 8 2	3	6.80–7.01	1,010
Promethium	Pm	61	(145)*	2 8 18 23 8 2	3		1,080
Samarium	Sm	62	150.4	2 8 18 24 8 2	2 or 3	7.40–7.52	1,072
Europium	Eu	63	151.96	2 8 18 25 8 2	2 or 3	5.243	822
Gadolinium	Gd	64	157.25	2 8 18 25 9 2	3	7.9004	1,311
Terbium	Tb	65	158.925	2 8 18 27 8 2	3 or 4	8.229	1,360
Dysprosium	Dy	66	162.50	2 8 18 28 8 2	3	8.550	1,409
Holmium	Ho	67	164.930	2 8 18 29 8 2	3	8.795	1,470
Erbium	Er	68	167.26	2 8 18 30 8 2	3	9.066	1,522
Thulium	Tm	69	168.934	2 8 18 31 8 2	3	9.321	1,545
Ytterbium	Yb	70	173.04	2 8 18 32 8 2	2 or 3	6.54–6.97	824
Lutetium	Lu	71	174.97	2 8 18 32 9 2	3	9.840	1,656
Hafnium	Hf	72	178.49	2 8 18 32 10 2	4	13.31	2,227
Tantalum	Ta	73	180.948	2 8 18 32 11 2	3 or 5	16.654	2,996
Tungsten	W	74	183.85	2 8 18 32 12 2	2, 3, 4, 5 or 6	19.3	3,410
Rhenium	Re	75	186.207	2 8 18 32 13 2	2, 3, 4, 6 or 7	21.02	3,180
Osmium	Os	76	190.2	2 8 18 32 14 2	1–8	22.57	3,045
Iridium	Ir	77	192.22	2 8 18 32 17 0	3 or 4	22.42	2,410
Platinum	Pt	78	195.09	2 8 18 32 17 1	2, 3 or 4	21.45	1,772
Gold	Au	79	196.966	2 8 18 32 18 1	1 or 3	19.32	1,064.43
Mercury	Hg	80	200.59	2 8 18 32 18 2	1 or 2	13.546	-38.87
Thallium	Tl	81	204.37	2 8 18 32 18 3	1 or 3	11.85	303.5
Lead	Pb	82	207.2	2 8 18 32 18 4	2 or 4	11.35	327.502
Bismuth	Bi	83	208.980	2 8 18 32 18 5	3 or 5	9.747	271.3
Polonium	Po	84	(209)*	2 8 18 32 18 6	0, 2, 4 or 6	9.32	254
Astatine	At	85	(210)*	2 8 18 32 18 7	1, 3, 5 or 7		302
Radon	Rn	86	(222)*	2 8 18 32 18 8	0	gas	-71
Francium	Fr	87	(223)*	2 8 18 32 18 8 1	1		27
Radium	Ra	88	226.025	2 8 18 32 18 8 2	2	5	700
Actinium	Ac	89	(227)*	2 8 18 32 18 9 2		10.07	1,050
Thorium	Th	90	232.038	2 8 18 32 18 10 2	4	11.72	1,750
Protactinium	Pa	91	231.036	2 8 18 32 20 9 2	4 or 5	15.37	1,600
Uranium	U	92	238.029	2 8 18 32 21 9 2	2, 3, 4, 5 or 6	18.95	1,132.3
Neptunium	Np	93	237.048	2 8 18 32 22 9 2	3, 4, 5 or 6	20.25	640
Plutonium	Pu	94	(244)*	2 8 18 32 24 8 2	3, 4, 5 or 6	19.84	641
Americium	Am	95	(243)*	2 8 18 32 25 8 2	2, 3, 4, 5 or 6	13.67	994
Curium	Cm	96	(247)*	2 8 18 32 25 9 2	3 or 4	13.51	1,340
Berkelium	Bk	97	(247)*	2 8 18 32 27 8 2	3 or 4	14	
Californium	Cf	98	(251)*	2 8 18 32 28 8 2			
Einsteinium	Es	99	(254)*	2 8 18 32 29 8 2			
Fermium	Fm	100	(257)*	2 8 18 32 30 8 2			
Mendelevium	Md	101	(258)*	2 8 18 32 31 8 2	2 or 3		
Nobelium	No	102	(255)*	2 8 18 32 32 8 2	2 or 3		
Lawrencium	Lr	103	(260)*	2 8 18 32 32 9 2			
Rutherfordium	Rf	104	..	2 8 18 32 32 10 2			
Hahnium	Ha	105	..	2 8 18 32 32 11 2			

*atomic weights in parentheses refer to that of the isotope with the longest half-life.

This **Flowerbower** just another example of what Searl has to understand: Searl give thanks to all those over time who gave all their efforts to solve these problems: that people like Searl can develop new technology, from which all can benefit from.

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length

Imperial unit: yard	symbol: yd
definition: 0.9144 metre	
SI unit: metre	symbol: m
definition: 1,650,763.73 wavelengths in vacuum of Kr86 radiation	

Imperial system	SI system
mil 1 mil = 1/1000 inch 1 mil = 0.039 mm	25.4 micrometre μm 1 micrometre = 1/25.4 mil
inch 1 inch = 12 feet 1 inch = 0.039 m	25.4 millimetre mm 1 millimetre = 1/25.4 inch
foot 1 foot = 3 feet 1 foot = 0.033 m	30.48 centimetre cm 1 centimetre = 1/30.48 foot
yard 1 yard = 3 feet 1 yard = 1.09 m	0.91 metre m 1 metre = 1.09 yards
mile 1 mile = 1.61 km 1 mile = 1.61 kilometres	1.61 kilometre km 1 kilometre = 1.61 miles
nautical mile 1 nautical mile = 1.852 km 1 nautical mile = 1.852 kilometres	1.852 kilometre km 1 kilometre = 1.852 nautical miles

additional units

ångström (Å)	= 0.1 nanometre (nm)
astronomical unit (AU)	= 1.495×10^8 kilometres (km)
light year (ly)	= 9.46×10^{12} kilometres (km)
parsec (pc)	= 3.084×10^{13} kilometres (km)

Conversion Table: Length.

Flowerbower, this is just a hair from your head in relation to which I must understand. The books which I have released over the years show that I do understand these values. Plus many more values. Sometimes I might slip and make an error. This problem is that I am busy talking to someone and trying to type at the same time. At my age and health condition that is hard to do without creating a typing error and fail to notice it. After all, newspapers and journals who are writing daily do often make errors.

Length: Scientists use the metric system for measuring lengths. But they often use special units in particular fields. The **angstrom** is used in **X-Ray** work. The Astronomers use the **light year** and the **parsec**; so my Dear **Flowerbower**, if you see me using any of these special units, it's because I am talking to real scientists, not a pretend one, like you. Length is used daily by me in my work of research.

Searl is aware that it is rather odd fact that, even in the last quarter of the **twentieth century**, we are not very efficient at making machines. The problem, as Searl sees it, is that we don't make enough of some kinds and inefficiency makes the machines expensive. What is more, the processes need **skills** that people are not nowadays **willing** to **learn** so these workmen who are employed have to be paid rather well which again makes the machines more **expensive** than they should be. Quite a few of the problems may be solved, in the future; Searl agrees that it looks as if the **computer** will be the **instrument** that, even though it is **expensive itself**, will produce real savings. Searl will wait and see what happens. For Searl **computers** needs **massive memories** to store the **millions** of pictures.

Neodymium Nd 60: electronic structure = 2-8-18-22-8-2 Valence = 3

Copper Cu 29: **electronic structure = 2-8-18-1** **Valence = 1 or 2**

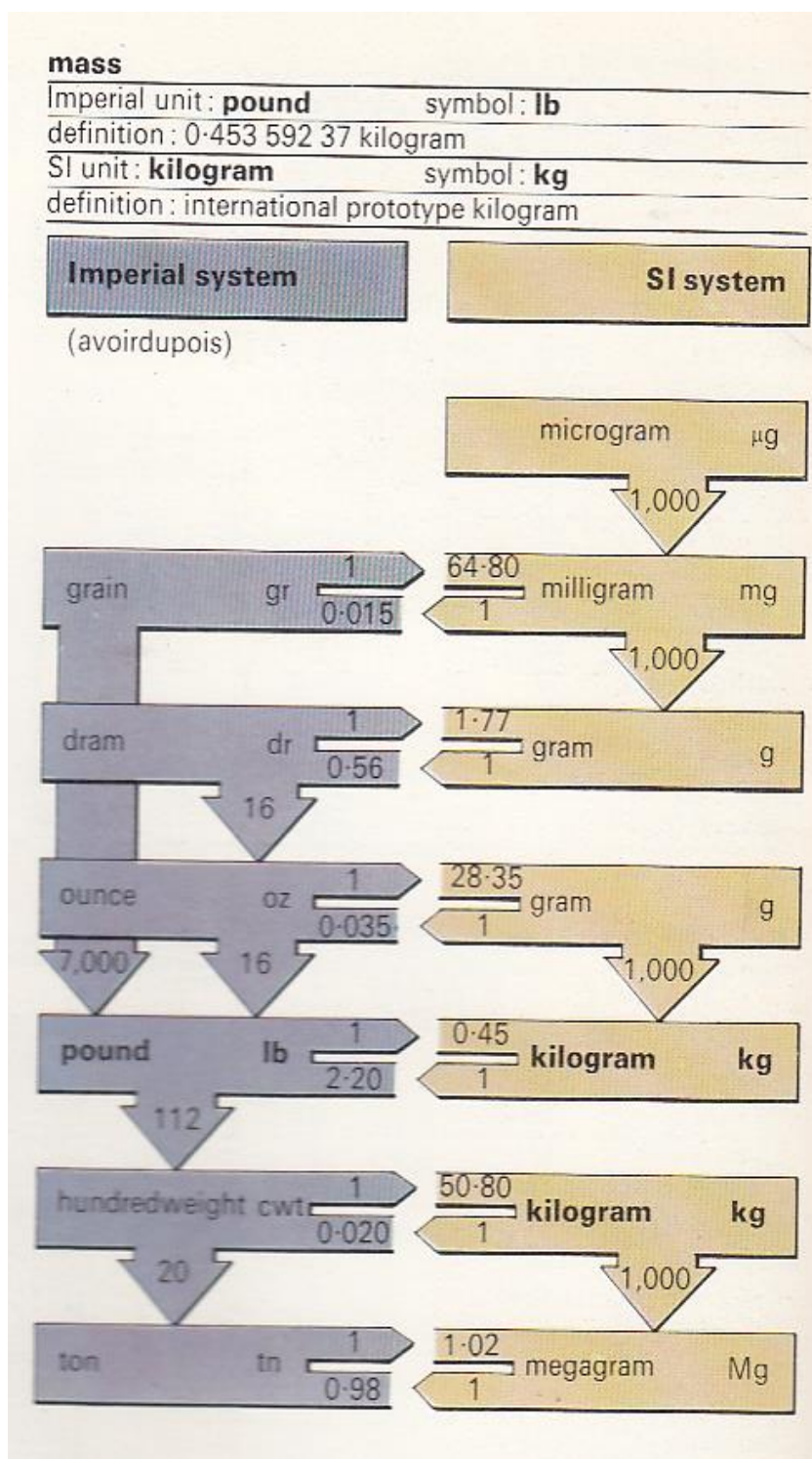
A circular portrait of a young boy with a beard and a glowing green, mechanical-looking device. The device has a central white circle and is surrounded by green lights and mechanical components.

The diagram illustrates two types of electrochemical cells. **B WET CELL** is shown as a rectangular box with a grid of small circles on its top surface, representing electrodes. A red square highlights a central circular emblem on the front face, which contains a globe and the text 'WORLD' and 'CIRCUIT'. Arrows point to the positive (+) and negative (-) terminals on the top. **A DRY CELL** is shown as a cylindrical cell with a textured surface. Arrows point to its positive (+) and negative (-) terminals.

Flowerbower Note that before we can have **current flow** we must first have **free electrons**. I have no option based upon your demonstration on YouTube that you don't have the brain capacity to understand anything of worth. After all you are setting the terms of insanity, not me!

Searl has shown **Flowerbower** how **valence electrons** can be dislodged from the atoms to form **free electrons** and **positive ions**. Searl explains that this can be done by very simple means such as **combing our hair** or **rubbing a glass rod** with a **silk cloth**. Searl states that however, to perform a useful function, we must free very large numbers of **electrons** and **concentrate** them in one area. **Flowerbower; how can we do that, after all, you are the world's top expert by your statements on YouTube; or was that just a con? After all you are an expert of BS.**

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MASS: is usually measured by **weighing**, but it is not the same thing as **weight**. The mass of an object represents the amount of matter in it, and Searl states that it is the same wherever the object is.

The **weight** of the object depends on **gravity**; Searl states that it would be different on other planets.

Searl states that the international prototype **kilogram** is a standard piece of **metal** kept in **Paris, France**, to which all other **masses** can be compared.

Searl remind you that it has taken centuries to arrive at this arbitrary value of the **kilogram** which is accepted of today.

Yet, there are those who think that they could make an **S.E.G.** in **3 months cheap**. That is news to me. I have not seen anyone of those claims becoming **FACT**; because they do not have the **knowledge**!

Searl would like to think that most people know about the **production lines** that makes engines for motor cars etc. Therefore, **Flowerbower** beware what you state on **YouTube**, you might get a long free holiday in prison. As Searl was for **31** years employed in making bearings, bushes etc., for cars etc. Thus, Searl is fully aware of what **production lines** are all about. He has to design them for the **S.E.G. production lines**. Searl states that this system works because the machines used in **mass production** are carefully designed to do just one job: or perhaps a couple of jobs. Searl sates that within this **document** you will see such machine at **Searl Magnetics Corporation**, for machining of layers for the **S.E.G.** construction. **WOW Flowerbower**, I guess your **testicles** are now in a **twist**.

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Searl is trying to help us to understand about the problems of **advanced technology**, not only its **shear cost**, but the lack of **skill workforce**. Searl states that this is the **crucial part**, so many of the pieces of the **motor car engines** made by the machines are needed that the machines run **continuously** and **automatically**.

Although the machines are very **expensive** to build, they were cheap to run; and Searl can assure you that is absolutely true. Searl can confirm that from experience of the **cost** of **machines** which has already been brought for the **S.E.G.** development, plus the **high cost** of **customs duties** to pay before you can collect the machines. The **masses** have no idea of the **cost** today which is involved. Let us take a different look at Searl knowledge, in which Searl was explaining what terms mean to him:



PERMANENT MAGNETS: have the property of retaining their **magnetism** practically unaltered for a great **length** of **time**. **NOTE** that here Searl refers to **conventional magnets**, and not to Searl **magnetic devices**. Searl states that **hard steel** when once magnetised will remain as a magnet for a very long time period, but **soft iron** soon loses its magnetic effect.

MAGNETIC SUBSTANCES: all **metals** are not affected by the **influence** of a **magnet**. There are very few substances capable of becoming magnetised, and most important in **1946 – 1968** was **iron Fe 26**, **steel** being a **compound** and not an **element**; **nickel Ni 28**, and **cobalt Co 27**.

MAGNET POLES: when a suspended bar-magnet is allowed to come to rest, one end point approximately to the **North** and the other to the **south**. Searl points out that the **Gillespie Airfield, San Diego, California, USA**, seats at the bottom of my garden; so to speak: lies **13° E** of the **North Pole**, therefore, such a magnetic bar would put me of course by that amount for the real **North Pole**. Searl: points out that the two ends therefore have distinct properties, and are called the **poles** of the **magnet dear Flowerbower**. The end pointing to the **North** is called the **North Pole** and that pointing **south** is called the **South Pole**. In reality that is incorrect – the **North Pole** of the **magnet** has to be the **South Pole** and not the **North Pole**.

MAGNETIC ATTRACTION AND REPULSION: suspend a bar-magnet and mark the **North Pole N** and the **South Pole S**. Searl says now remove this magnet and suspend another, and mark its **north** and **South Pole N¹** and **S¹** respectively. Searl says keeping this **magnet suspended**; bring the **North Pole N** of the first magnet near to the **North Pole N¹** of the second. Searl says observe that we get **repulsion**. Now, when the **suspended magnet** has again come to rest, bring the **pole N** near the pole **S¹**. This time we have **attraction**. Lastly, bring the **pole S** near to the **pole N¹** and we again have **attraction**. From these results we arrive at the **fundamental Law** of the **magnetic action**: To avoid breaking up the following statement Searl will continue on the next page.

LIKE POLES REPEL AND UNLIKE POLES ATTRACT: this Law is even of more importance than the analogous law in **STATIC ELECTRICITY**.

MAGNETIC INDUCTION: Is the power possessed by a **magnet** of imparting **magnetic qualities** to a **magnetic substance**. Searl states that this **phenomenon** can easily be explained by the following experiment: Searl says let the **north pole** of a magnet be brought near a short piece of **iron Fe 26**, as shown in **Figure BC 1**:

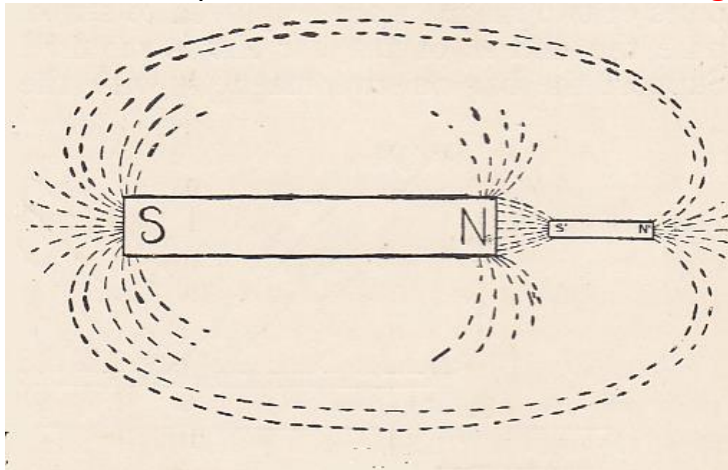


Figure BC 1: A **south pole S¹** is induced at the end of the **iron Fe 26** nearest the **North Pole N¹** at the opposite end of the **iron Fe 26**.

This **induction** always **precedes** the **attraction** of a **previously un-magnetised** body. To: Searl **education** and **understanding** of **magnetism**.

Searl says that when **two permanent magnets** are brought near each other, there is already an existing **attraction** or **repulsion** according to the way in which they are presented to each other. Searl states that the **magnetic induction** is the **power possessed** by a **magnetic pole** of inducing a magnetic condition in a neighbouring piece of **magnetic material**, so that the end nearer the **magnetic pole** has **unlike polarity** and the more distant end **like polarity**.

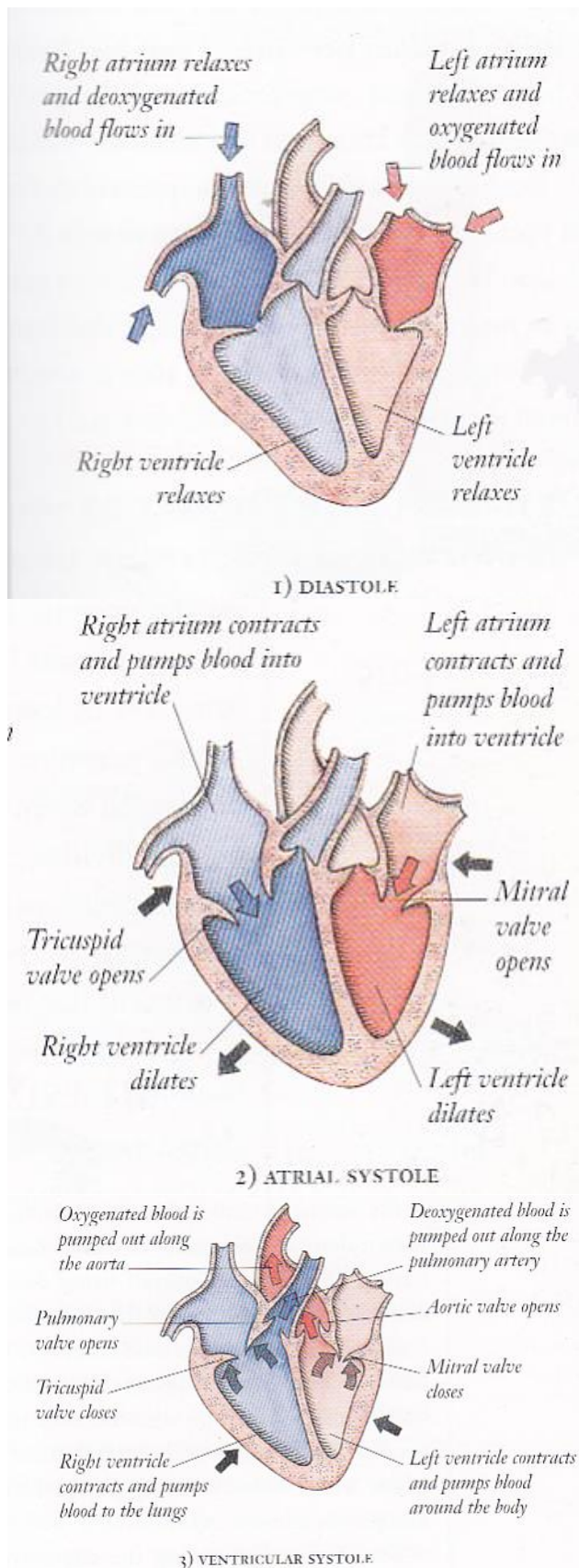
Let us now return to **page 37**: Searl continue education **1946 – 1947**:

Searl states that this requires more **sophisticated techniques**. Searl says that one device for doing this is the **ordinary battery**. There are many types of batteries. **Figure CE 1-13** shows two familiar examples. These are the **Dry Cell** (flash light battery) and the **wet cell** (automobile battery).

Searl says that while these two types of batteries are quite different in construction, they do have several points in common. Both have **two terminals** or **poles** to which an electrical circuit can be connected. Also, both employ a **chemical reaction** which produces an **excess** of **electrons** at one terminal and a **deficiency** of **electrons** at the other. The terminal at which the **electrons congregate** is called the **negative terminal**. It is indicated by the **minus sign** in **Figure CE 1-13**. The other terminal is indicated by a **plus sign** and has a **deficiency** of **electrons**. Searl says now let's see how the battery affects the **free electrons** in a **conductor**.

Searl is able to help you to understand how he learnt: from which the **S.E.G.** was born.
Agree dream 1. Hopscotch game was the guilty; and the squares lead him to the concept.
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I have considered that it was time for a break. The sequence that makes up a heartbeat consists of a sequence that has 3 phases (here comes the law of the squares) **diastole**, **atrial systole** and **ventricular systole**. The timing of these **3 phases** must be accurately maintained, regardless of how slowly or rapidly the heart is beating.

Figure BP 1: DIASTOLE:

Figure BP 2: ATRIAL SYSTOLE:

Figure BP 3: VENTRICULAR SYSTOLE.

Searl ought to know as his heart beats goes up and down with stops. Thus, Searl blood pressure goes up and down through the day.

It is considered that a **lower** blood pressure is a healthier heart, as long as it does not go to low. Take **Thursday 15th 2015**: Blood pressure = **95/59 pulse = 63**. Yet today my blood pressure = **135/75 pulse = 74**, and yet I'm still kicking.

Searl states that there are many more such people around the world with the same problem.

When doctors talk about blood pressure, what they mean is the pressure in the large blood vessels as your heart forces blood around your body. On the whole, the lower your blood pressure, the healthier you are in the long term (except in some very rare conditions in which excessively low pressure is part of a disease. Now you know the facts as we understand them.

Searl says that you may have forgotten that he worked on the **hospital wards** and then got promoted to the laboratory. Thus, he was able to examine real human hearts to study their structure and problems. Between the **live hearts** on the ward and the **dead one** in the lab, certainly he has no problems with the **Homo sapiens bodies**.

RANDOM DRIFT AND DIRECTED DRIFT:

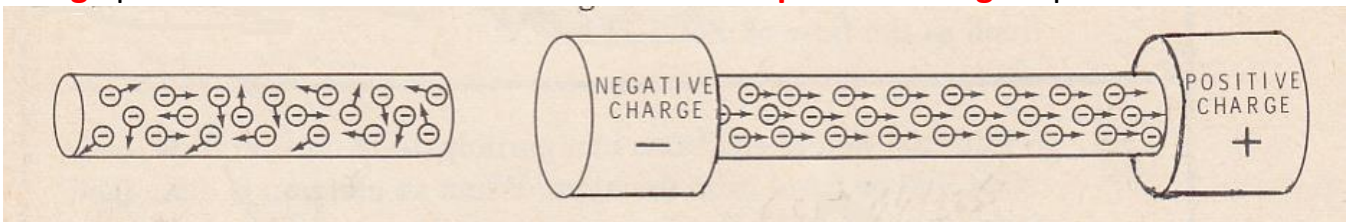
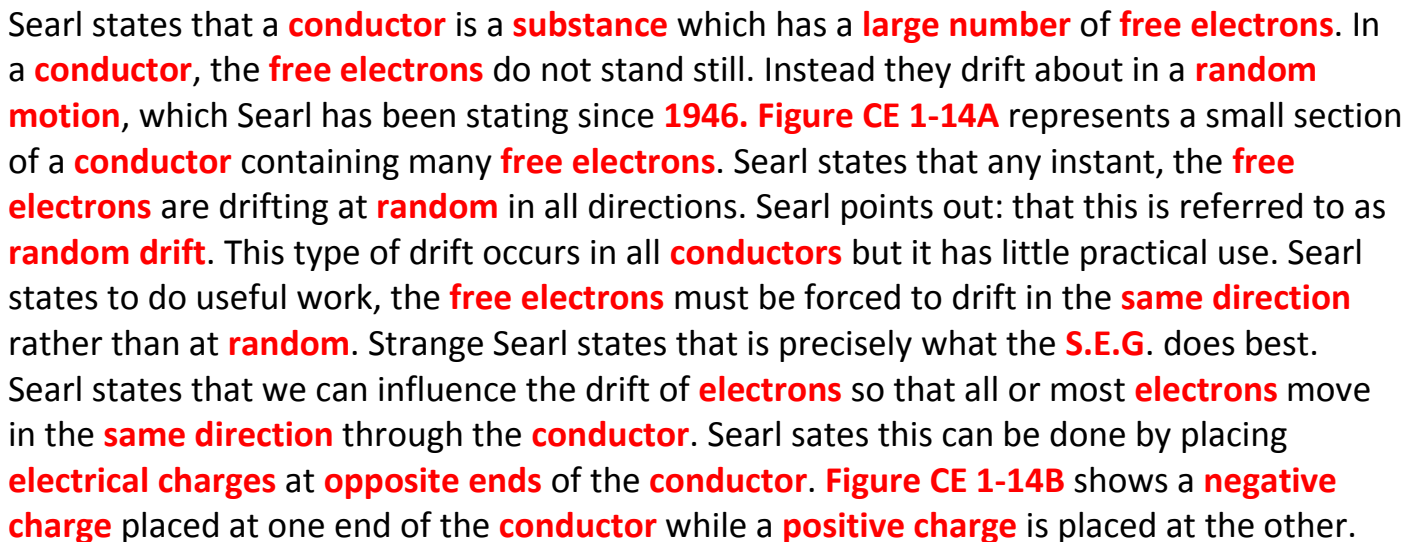


Figure CE 1-14B: Directed drift. (Comparison)

Searl reminds you that the **negative charge repels** the **free electrons** while the **positive charge attracts** them. Searl states as a result all of the **free electrons** move or drift in the same **general direction**. Searl reminds you that the **direction** is from the **negative charge** to the **positive charge**.

Searl states that here, the application of the **electrical charges** at the ends of the **conductor** has changed **random drift** to **directed drift**. This **directed drift** of **free electrons** is called **current flow**. Searl accepts that an **electric current** is flowing through the **conductor**. Searl states that if the **electric charges** shown in **Figure CE 1-14B** are **isolated** from one another, the flow of **electrons** will quickly cancel **both charges** and only a **momentary current** will flow. However, if the **two electrical charges** are caused by a **battery**, the **chemical action** of the **battery** can maintain the **two charges** for some time. Therefore, a **battery** can maintain a **continuous current** through a **conductor** for a long period.

Searl states that a **copper Cu 29 wire** is a good example of a **conductor**. **Figure CE 1-15** shows a length of **copper Cu 29 wire** connected from **one terminal** to the other of a **battery**. What then will happen, **Flowerbower**? Searl will tell you on the next page. That is, if Searl don't want to play games with your brain, which he is known for doing to nutters.

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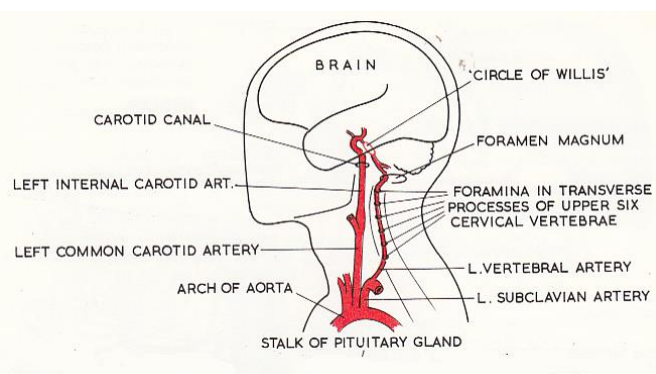
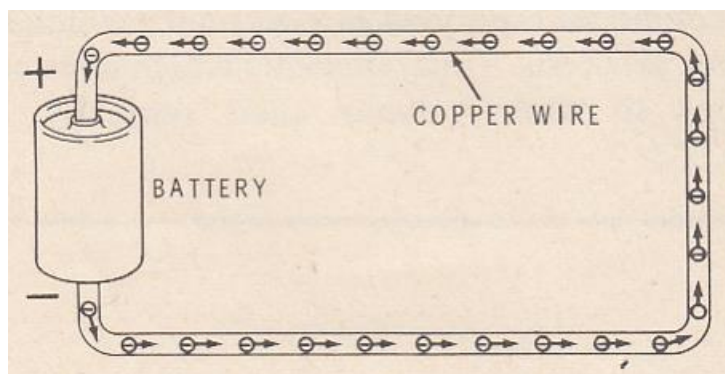


Figure CE 1-15: current flows from **negative terminal** to the **positive terminal** of the battery. **Figure AA35: Flowerbower brain empty of intelligence; nothing of worth is there.** Searl states that such a circuit would experience a **heavy current** will flow from the **negative terminal** of the **battery** to the **positive terminal**. Searl states that can you recall **Flowerbower, Russell Anderson, Bradley K. Lockerman, Phil, Kirk and John Thomas** that the **negative terminal** is a source of **free electrons**. Searl reminds you that an **electron** at this point is **repelled** by the **negative charge** and is **attracted** by the **positive charge** at the opposite terminal. Thus, the **electrons flow** through the wire as shown. When they enter the **positive terminal** of the **battery**, they are **captured** by **positive ions**. The **chemical reaction** of the **battery** is constantly releasing new **free electrons** and **positive ions** to make up the ones lost by recombination.

Searl point out that in practice, we never connect a conductor directly across the terminals of the battery as shown in Figure CE 1-15. The heavy current would quickly exhaust the battery. Searl makes clear that this example of a short circuit and is normally avoided at all cost. This example is shown here merely to illustrate the concept of current flow.

Searl says that it is time to test your brain; to see what it has remembered from this last lesson.

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PROGRAMMED REVIEW:

- 31 Current is the flow of electrical charges from one point to another. Since electrons carry electrical charges, current can also be defined as the flow of _____.
- 32 Before electrons can participate in current flow, they must first be freed from the atom. When an electron is dislodged from an atom, the atom becomes a positive _____.
- 33 Electrons are distributed around the atom in shells. Of particular importance to electronics is the outer shell. This shell is called the valence shell. Also, the electrons in this shell are called _____ electrons.

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						0
						0
						0
						0
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0	0	0	0	0	0	0
0					0	

This is a **matrix square 6**: Searl question is: can you work this out to obtain a frequency value of **810**. I have given you a counter so you can check your results for an **S.E.G.**

Flowerbower you should be able to answer that question faster than me **Gunga Din**, as **God** will give you the answer instant. After all, since **1968** you made it clear that you were the world's greatest expert – now prove it, accept my challenge, come on the largest stage in California; before the world media for a test, I'm been ready waiting for you now for **3 years**. If you beat me I will kiss your 4 cheek's if I win I shall give your 2 lower cheeks **25 strokes** of the cane for **slander etc.**

34 These are the electrons which can be most easily freed from the atom. However, the valence electrons in some elements are very difficult to dislodge while in other elements they are freed easily. The difference stems from the number of electrons in the _____ shell.

35 If the valence shell contains one or two electrons, they can be easily dislodged. However, when the shell is full or nearly full the electrons are very difficult to dislodge. Therefore, the ease with which an electron can be dislodged depends largely on the _____ of electrons in the valence shell.

36 A conductor is defined as a substance which has a large number of free electrons. Thus, elements which have only one or two electrons in their valence shell normally are good _____.

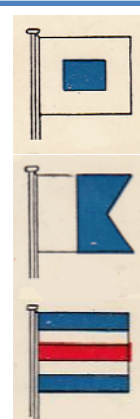
37 Elements such as gold Au 79, silver Ag 47, and copper Cu 29 have only one valence electron. Therefore, these elements are very good _____.

38 On the other hand, an insulator is defined as a substance which has very few free electrons. This situation occurs in elements which have their valence shells nearly full. For example, elements with 6 or 7 valence electrons make good _____.

39 The free electrons within a conductor drift around at random. To do useful work these electrons must be forced to drift in a desired direction. We can influence the drift of electrons by connecting the conductor across a battery. A battery is a device which has an excess of electrons at one terminal and a deficiency of electrons at the other. The terminal with an excess of electrons is called the negative terminal. The terminal with the deficiency of electrons is called the _____ terminal.

• • • • - - - • / • • • - - - • / • • • - - - • / • • • - - • - / • - • - • //

155	174	193	212	231	250	269	288	1	20	39	58	77	96	115	134	153
173	192							19							152	154
191		229	248	261	286	16	18	37	56	75	94	113	132	151		172
209		247	266					55					150	169		190
227		265		14	33	35	54	73	92	111	130	149		187		208
245		283		32	51			91			148	167		188		226
263		12		50		71	90	109	128	147		185		206		244
281		30		68		89	108	127	146	165		203		224		262
10	29	48	67	69	88	107	126	145	164	183	202	221	223	242	261	280
28		66		87		125	144	163	182	201		222		260		9
46		84		105		143	162	181	200	219		240		278		27
64		102		123	142			189			239	258		7		45
82		103		141	160	179	198	217	236	255	259	276		25		63
100		121	140					235					24	43		81
118		139	158	117	196	215	234	253	272	274	4	23	42	61		99
136	138							271							98	117
137	156	175	194	213	232	251	270	289	2	21	40	59	78	97	116	135



Hello I'm
here to stay

Searl question: He needs a **frequency value** of **41905**: Searl has worked some of the numbers out for you; the rest for you to solve is extremely simple to do.

40 If one end of a conductor is connected to the negative terminal and the other is connected to the positive terminal, electrons will flow through the conductor. In the conductor, electrons will always flow from the negative terminal to the _____ terminal.

41 Electrons which leave the negative terminal of the battery are replaced by other electrons which are released by the chemical reaction within the battery. Thus, a battery can maintain a continuous flow of electrons through a conductor for a long period of time. This flow of electrons is called current. Electrons flow from a _____ charge to a _____ charge.

42 Don't forget there will be more tests later.

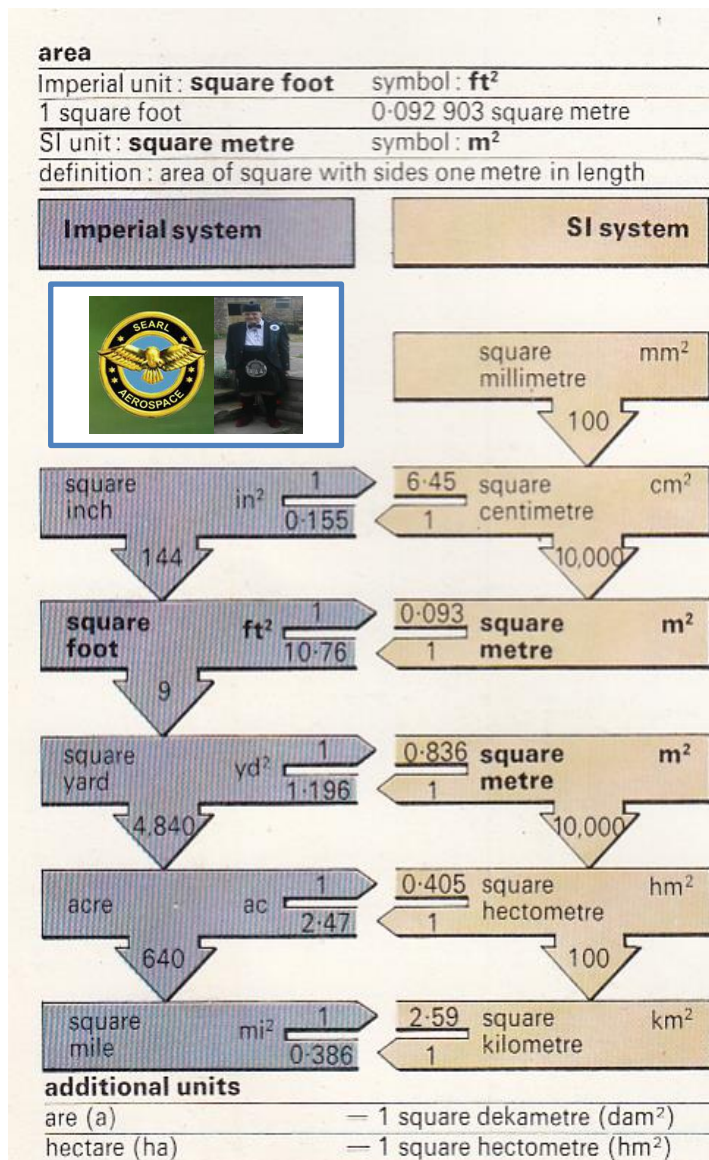
THE ELECTRIC CIRCUIT:



Searl states that in its simplest form, an **electric circuit** consists of a **power source**, a **load**, and **conductors** for connecting the **power source** to the **load**. Often the **power source** is a **battery**. The purpose of the **power source** is to provide the **force** necessary to **direct** the **flow** of **electrons**. As you will see in the next volume, this **force** is called **voltage**. **Power sources** produce **voltage** by creating a **positive charge** at one **terminal** and a **negative charge** at the other.

NOTE: the answers to the two squares will be found in a volume 2 to be released.

• • • • • - - - - - / • • • • • - - - - - / • • • • • - - - - - / • • • • • - - - - - / • • • • • - - - - - /



Searl states these measurements which we think we were first to invent it: Searl will list some of the facts that we are now aware of: **inventions**
Stone tools: Developed in the Paleolithic age, nearly **two million years** ago in **Eastern Africa**. Earliest were **axes, knives, chisels, needles**.

Fire: First known use by Peking man, 500,000 BC, in China. Probably: discovered independently by many primitive peoples for cooking and warmth.

Bow and arrow: Shown in cave paintings in Spain around 30,000 BC. Later arrowheads are common. Man's first device for storing useful energy.

Paint: Made from minerals by 30,000 BC in Europe for art and religious uses. Paints based on oil after 1400 AD, modern latex paints after 1948.

Harpoon: Europe before 10,000 BC, in the form of barbed spears for catching seals and large fish. Hooks created of stone; and bone widely used later.

Lamp: Made of hollowed stone by **10,000 BC** to burn oil or fat. First man made device that produced artificial light. Man also created the glass-chimney lamp invented in **1784 AD**.

Searl states that we must understand our past by which we can create our future.

Searl explain here that those dates shown before **AD** are assumed from findings which laboratories investigated by tests such as **carbon dating, X-Rays** and other modern test systems. Clearly they will be \pm in those date values. But what it does; is to present us with an illusion of man's progress through time.

We shall now return to Searl **continues education** of **1946 – 1947**: The **load** is generally some kind of **electrical device** which performs a useful **function**. It might be a **lamp** which produces **light**, a **motor** which produces **physical motion**, and a **horn** which produces **sound**, or a **heating element** which produces **heat**. Regardless of the type of **load** used, the **S.E.G. Load** performs its useful **function** only when **electric current flows** through it.

Searl understand that a few of you really know about all this stuff, the problem is **millions** do not understand that is why idiots can brainwash them easy with lies and they will, believe them – lies are more interesting – more dramatic, than the truth is, which by coincidence was part of my first medical lesson at Shenley Hospital. Today, I'm shock at the lack of education; and yet they knock me as not having any – what **insanity** that exists today compared to my days.

• • • • • - - - - - / • • • • • - - - - - / • • • • • - - - - - / • • • • • - - - - - / • • • • • - - - - - /

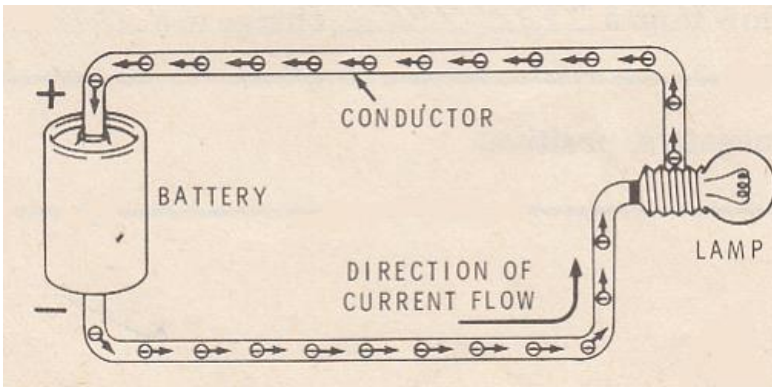


Figure CE 1-16: simple electric circuit which Searl will explain soon.

Figure BP 1: A common problem:

First: Searl would not join in such a gathering **WHY?**

A, perfect condition: for those murders who proudly class themselves as **terrorists**.

Second: If you want to catch a nasty disease, here is where you may find one.

Third: A common problem in the UK, between **10** and **20** per cent of the population suffer from hypertension. If you are over the age of 30 and cannot remember when you last had your blood pressure checked, you could be one of the 7 – 10 million people in the UK who has high blood pressure. Doctors usually use the term hypertension to describe this condition, which may cause no symptoms at all for very many years, but could eventually lead to serious complications, including heart disease and strokes. Searl should know as he has had such results a number of times, thanks to medical care he survived them 7 times. Thus, he now records his BP every day for good reasons.



Today, **Saturday January 17th 2015**, Searl has an interview tomorrow **Sunday January 18th 2015** on **The Conspiracy show** by **Richard Syrett** at 2000 hours **San Diego time**. As Searl understands it; that is a big show to be invited to talk on. Searl is very grateful for this opportunity to again speak to the masses.

Searl missed out a short note on the subject of **area**: Which should have stated: In the **metric system**, the **unit** of **area** is an **area** of a **square** whose sides are **one unit** in **length**. The names **are** = **a** = $1 \times 10^2 = \text{m}^2$ and **hectare ha** = $1 \times 10^4 = \text{m}^2$ were introduced only for convenience.

• • • • • / • • • • • / • • • • • / • • • • • / • • • • • //

quantity	Imperial unit	symbol	SI unit	symbol	conversion
velocity	miles per hour	mi/h	metres per second	m/s	1 mi/h = 0.447 m/s
acceleration	feet per second per second	ft/s ²	metres per second per second	m/s ²	1 ft/s ² = 0.305 m/s ²
frequency	cycles per second	c/s	hertz	Hz	1 c/s = 1 Hz
density	pounds per cubic foot	lb/ft ³	kilograms per cubic metre	kg/m ³	1 lb/ft ³ = 16.02 kg/m ³
force	pound force	lbf	newton	N	1 lbf = 4.448 N
pressure	pounds per square inch	lbf/in ²	pascal	Pa	1 lbf/in ² = 6,894.76 Pa
work, energy	kilowatt hour	kWh	joule	J	1 kWh = 36,000 J
power	horsepower	hp	watt	W	1 hp = 745.7 W
electric current	ampère	A	ampère	A	
quantity of electricity	coulomb	C	coulomb	C	
electric potential ('voltage')	volt	V	volt	V	
electric resistance	ohm	Ω	ohm	Ω	
luminous intensity	candela	cd	candela	cd	

The: problem that Searl experiences, is that people does not appear to understand what he states. In this document he will try to get you to understand that which he means. Searl states that if a car goes faster by **3 m/s** in **every second**, then it **accelerates** by **3 metres per second per second**. This also applies to the **S.E.G. roller sets**, regardless of its **mass**. Searl states, those atoms in crystals, radio waves, pendulums, all have their own rate of **vibration**, as Searl has been telling us since **1946**, called their **frequency**.

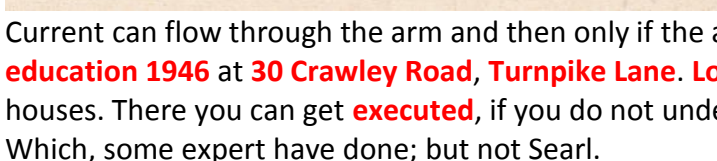
Searl states that **density** is a measure of how closely packed **matter** is: how much **mass** there is in a **cubic metre**. The **force** needed to hold up a **gram mass** is **one gram force**, on the **Earth**. It is the **weight** of the **gram mass**. Searl states that any **force** can be spread over a larger or smaller area create a smaller or larger **pressure**. Searl points out that whenever **matter** is lifted, or set moving, or changed in shape, **work** is done. **Energy** is the ability to do work, and is measured in the same units. Searl says that you will be hearing more lately on in this document.

The third part of the **circuit** is the **conductors** which connect the **power source** to the **load**. Searl points out that they provide a **path** for **current flow**; as that of runways for an aircraft to take-off or to land. Searl says that the **conductor** may be a length of **copper Cu 29 wire**, or a strip of **aluminium Al 13**, the metal frame of an automobile, etc.

Figure CE 1-16: shows a pictorial representation of an **electric circuit** consisting of a **battery**, a **lamp**, and connecting **Copper Cu 29 wire**. The **battery** provides the **force (voltage)** necessary to cause the **directed flow** of **electrons**. The **force** developed by the **battery** causes the **free electrons** in the **conductor** to **flow** through the **lamp** in the **direction shown**. The **free electrons** are **repelled** by the **negative charge** and are **attracted** by the **positive charge**.



Figure 65.1.13: Circuit with a switch



m is closed. This was just a small part of Searl
don. UK. Soon Searl will be moving on to wiring
stand what you are doing. Or set the house on f

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Let's return to Searl continue education **1946 – 1947**: Searl states that in Figure **CE 1-17A**, the switch is shown closed. With the switch closed, there is a path for **current flow** from the **negative terminal** of the battery through the **switch** and **lamp** to the **positive terminal**. The lamp lights because current flows through it. When the switch is opened as shown in Figure **CE 1-17B**, the path for **current flow** is broken. Searl states that it should be easy for everyone to understand that, the lamp does not glow because there is no current flowing through it.

Searl says that while simple circuits can be drawn as shown in Figure **CE 1-16** and **CE 1-17**, it would be very difficult to draw complex circuits in this manner for the **S.E.G**, and certainly not for the **I-G-V**. For this reason, the **schematic diagram** was developed. Searl states that a **schematic diagram** is a drawing in which **symbols** are used to represent **circuit components**. Thus, the first step to understanding the **schematic diagram** is to learn the **symbols** for the various **components** used. Figure **CE 1-18** compares very **elementary symbol** with the **pictorial** representation of the **circuit components** we have used up to this point. Searl will continue this issue below.

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Diagram A shows a closed circuit. On the left is a battery symbol labeled "BATTERY". A wire goes from the top of the battery to a lamp symbol on the right, labeled "LAMP". Another wire goes from the bottom of the lamp back to the battery, passing through a switch symbol in the middle. The switch is labeled "SWITCH (CLOSED)" and is shown as two small circles connected by a horizontal line with an arrow pointing from left to right.

Figure CE 1-19: shows several of the symbols combined to form a schematic diagram. Figure CE -1-19A: is the schematic diagram for the pictorial drawing shown earlier in Figure CE 1-17A. Also, Figure CE 1-19B: is a schematic diagram of the pictorial shown in Figure CE 1-17B. Flowerbower this was clearly my understanding at the age of 14 years and 5 months, which lead me creating Christmas lights display for Christmas 1946. As the years pass; my Christmas light shows grew and got the nick name Blackpool illumination lights.

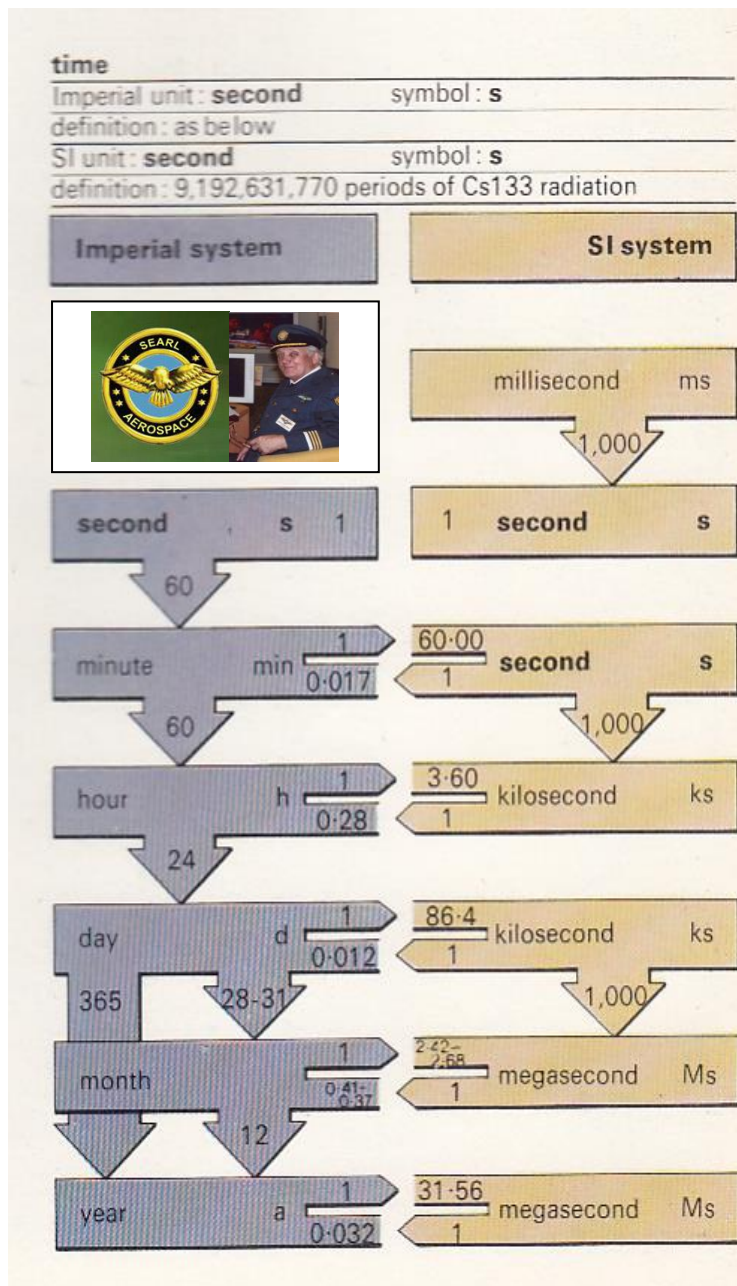
Searl sincerely hope that this will encourage young inventors to be: to experiment as Searl did. I know that I shall not be around to witness your successes to come. But Searl wish you all success for your efforts, win or lose, is not the answer but that you actually tried to win.

Searl states that the circuit shown in **Figure CE 1-19** is the **schematic diagram** of a flashlight. It is also the **diagram** for the **headlight system** in an **automobile**. In fact it can represent any system which contains a **battery**, a **lamp** and a **switch**. Searl states if the **lamp** is replaced with a motor, the circuit becomes that of the **starter system** in a **car**. In this case, the **switch** is operated by the **ignition key**. Searl states that, other circuits which operate in a similar manner are the **door bell** and the **automobile horn**. In the first case, the **bell** is the **load** while the **switch** is operated by a **push button** at the **door**. In the **second case**, the **horn** is the **load** while the **switch** is normally located on the **steering wheel**.

Searl understand that you may wonder what this is to do with the **S.E.G.** In reality, Searl says everything. Here, Searl is talking about the **movement of electrons** to preform work, as in the **S.E.G.** for it to **perform work** many **switches** are needed, but not in the **electrical sense**, but in a **magnetic sense**. First let us fully understand what we are doing **electrically**, as Searl had to study both **electrical** and **magnetic properties**, before he could start on the design of the **S.E.G.** concept. Before Searl give you a test to see what you can remember, he will explain what the terms which he uses actually mean as there appear to be problem in education that words which Searl uses get misunderstood.

FREE: does not mean that the S.E.G. is free. What he means is the energy which you are using from it; you are not paying for it. But the S.E.G. itself cost money, which you have to pay for. But it is an investment for life, and your family's lifetime and so on; which no other power device can offer you. The beauty of the S.E.G. there is no nose pollution involved, in FACT there is no pollution of any nature involved; what a machine?

• • • • • / • • • • • / • • • • • / • • • • • / • • • • • /



TIME: light waves consist of extremely rapid changes in **electric** and **magnetic fields**. The rate of these changes in one particular colour of light from the **metal cesium - 133** (Cs-133) is used in the **definition** of the **second**.

Searl: points out that in the **S.E.G.** function, **timing** is **vital ingredient**, if you failed to get that **precisely** right then you will not get an **S.E.G.**

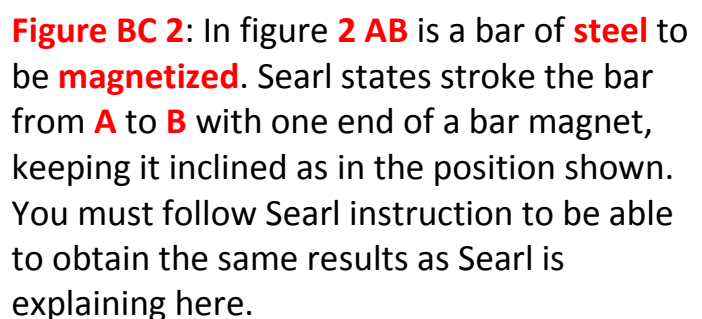
Searl states that the Table on the left side gives a basic picture of **time**, which Searl had to **understand** to be able to create the **S.E.G.** concept. As Searl has been stating since **1946** that the **S.E.G.** is an **absolute precision negative device**; and not a **positive device** as today's generators are. Never forget, all these tables took centuries to create them for today's use by **inventors** and **scientists**, who themselves, will develop tables to help future **scientists** and **inventors** to progress in their research studies.

Searl explains that in his **S.E.G.** studies he had to bring **elements** and **compounds** together to **observe** what **reactions** which would take place, and slowly the concept fell together. All that was now needed was to be in the **right place** at the **right time** – and behold that **impossible situation** actually happen in reality due to a simple fact that Searl repaired a very costly **Hi Fi radiogram 8 disc auto-changer** which a radio repair shop had inform the owner it was not worth repairing. What did it cost – **just 2s and 6p**. What **cost** of a **new replacement** of that top furniture would have been about **£200.00**?

That was how Searl became working for the **British Government** power generating system on electrical and electronic testing. Clearly these **jobs** were driving Searl to the goal that his brain was aiming for the **S.E.G.** The secret of Searl success came from his massive study objectives to prove that the experts employed by **Dr, Barnardo's Homes** were **wrong**: Which state that Searl would never be an electrical engineer or a pilot, Searl became both.

Clearly Searl had no family. Other people's children became Searl family to teach. But then Searl was in the **wrong** by their mothers that, Searl should not give them such large sums to work out. Strange they love them, because they could do them and fast as well, with no errors. It also **bonded** them to Searl, because Searl would listen to them, which many parents have no time to do. Another issue was when Searl had the child to care for: once it was potty train they want them back again, as the dirty work was done. All Searl undertaking was made with no charge for Searl time. When Searl hear **adults insulting** him, Searl **wonder** if they had any **education at all of worth**.

CONSTRUCTION OF MAGNETS: Magnets can easily be made by rubbing pieces of steel in a suitable manner with one or two magnets. Searl states that there are **three methods** of doing this, here comes the law of the squares, or more precise that hopscotch game, and the principle employed in each case is the same.



WARNING: Searl states it should be carefully observed that the end of the bar, where the stroking pole leaves it, is of the opposite polarity to that pole. Searl notes the comments made by people who either do not understand English, English: otherwise they would not be making **insane statements** about Searl. These books: if you like to use that term; explains in child's language about Searl education and work success. Searl admits that he does not understand some **American English**, which has a completely different meaning.

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... .. / / / - / //

METHOD OF DIVIDED TOUCH:

Searl states that in this method the **opposite poles** of two magnets are employed to stroke the **steel bar**. Searl says suppose the end **A** of the bar **AB** is required to be a **North Pole**.

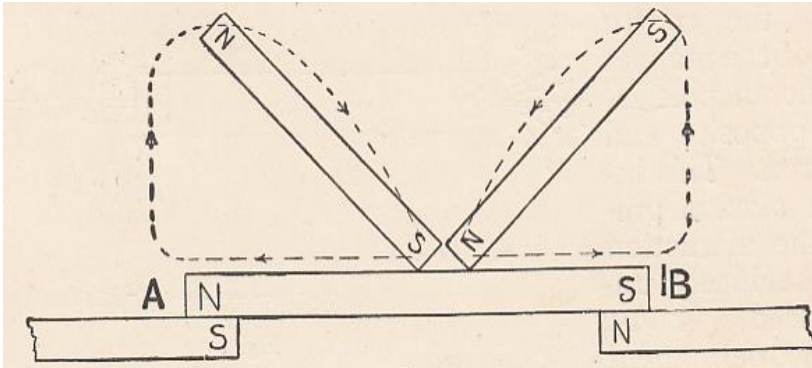
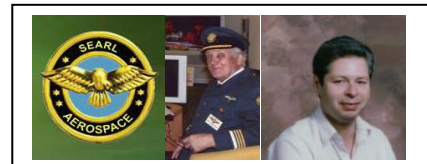


Figure BC 3: Searl says now support the bar on two magnets, with the end **A** resting on a **South Pole** and the end **B** on the **North Pole**, as shown in **Figure BC 3**: Again, Searl ask you to check you have got this right.

Searl states that the two other magnets are then held in inclined positions, with **opposite poles** resting in the middle of the bar. Searl says that the bar is then stroked a number of times with these magnets, starting from the middle and bringing them back at a distance above the bar, as indicated by the dotted lines. Searl states that the steel bar will then be magnetised with a **North Pole** at **A** and a **South Pole** at **B**.

METHOD OF DOUBLE TOUCH:



Searl states that this method is similar to that of the divided touch and is shown in **Figure BC 4**.

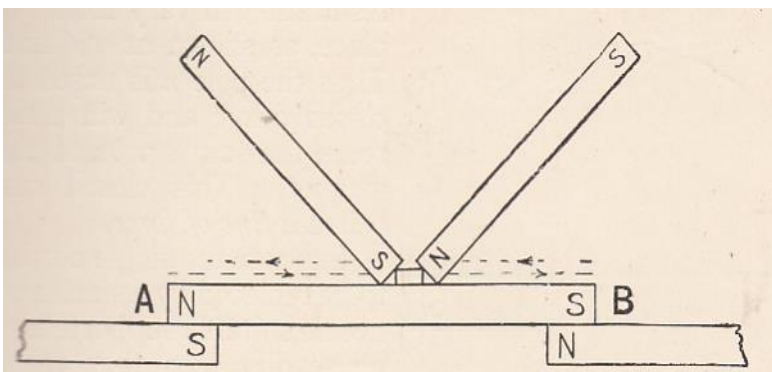


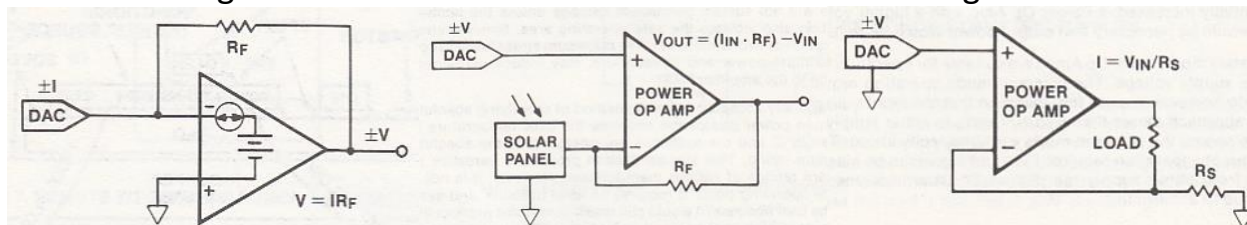
Figure BC 4: Instead of the stroking poles being separated, they are merely kept a short distance apart by means of a piece of wood, both **poles** are moved together to and fro along the bar.

Thus, starting at the middle of the bar, the poles are moved along to **B**, then back along the bar to **A**, then from **A** to **B**, until the surface has been stroked many times, finishing off finally at the middle. Searl quotes, these methods, however, are seldom used in practice, as very powerful magnets can be easily made by means of a **spiral wire** through which an **electric current** is passing. Searl will be treating this method later when he deals with **Electro-Magnetism**.

Searl will now present you with a Programmed Review: to test your memory. As he is aware that some just like to rush through and only read what they want. **NOTE** these **documents** are **education** that covers everything including deep **space exploration** covering the problems of the Homo sapiens structure problems Nudity will be involve within these books
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PROGRAMMED REVIEW:

- 43** an electric circuit consists of a power source connected to a load. The power source provides the force which causes electrons to flow. This force is called voltage. In a flashlight the power source is a _____.
- 44** The load is a device which performs some useful function. The load's function may be to produce light, sound or motion. Thus, lamps, horns, and motors are examples of _____.
- 45** The load performs its function when current flows through it. Most loads do not perform continuously. Instead the current is turned on and off by some kind of _____.
- 46** Schematic diagrams are used as a shorthand method of drawing electric circuits.



The schematic diagram differs from a pictorial presentation in that the components are drawn as _____.

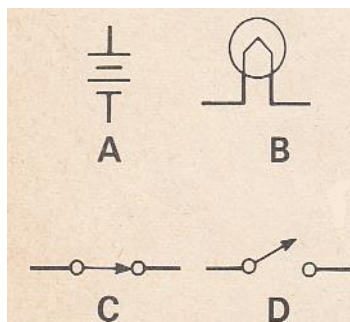


Figure CE 1-20: Identify these **symbols**.

Shown in Figure **CE 1-20** are the **schematic symbols** for four **different components**. **Identify** each one:

- A** _____
B _____
C _____
D _____



- 47**
- 48** The symbol for the battery has a short line at one end and a long line at the other end. The short line represents the _____ terminal.
- 49** **Figure CE 1-19:** shows a complete electrical circuit. When the switch is closed, electrons flow from the _____ terminal of the battery through the lamp to the _____ terminal.
- 50** What causes the roller sets to rotate around the plate of an **S.E.G.** _____.

The answers to all questions will be discovered in Volume two.

THE MAGNETIC FIELD: of a magnet is the space surrounding it, within which it can exert an influence upon magnetic materials. Searl states that this term **Magnetic Field** is confined to the region wherein the **magnet** is capable of exerting an **appreciable effect**, because, strictly speaking, the field is of infinite extent, but in practice the **magnetic effect** is diminished so rapidly that at a comparatively small distance from the **magnetic** it becomes negligible.

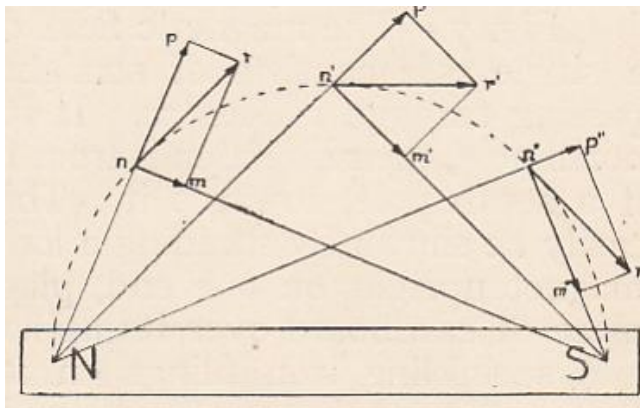
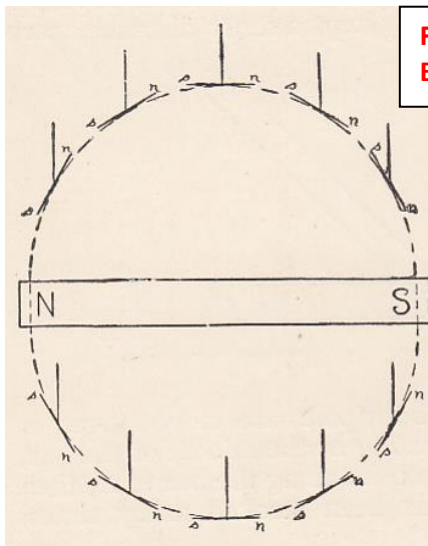
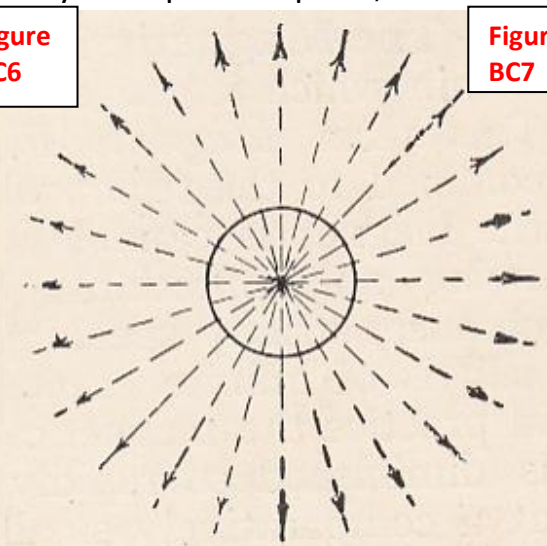


Figure BC 5: This also applies to the **roller sets** in the **S.E.G.** Imagine a single **North Pole n** to be placed in the **magnetic field** of a **magnet**, as shown in **Figure BC 5**. This isolated **pole** is **repelled** by the **North Pole** of the **magnet** in the **direction np**, and is **attracted** by the **South Pole** in the **direction nm**.

Searl points out that these two forces acting on a single pole will have a resultant force **nr**, that is, a force which would have the same effect as the two acting along **np** and **nm**. The pole n would therefore move along in the direction nr. As this pole n moves, the direction and magnitudes of the forces, with which the bar magnet acts upon it, also alter, and the direction of the resultant will vary from place to place, as shown at **n'r'** and **n''r''**.



**Figure
BC6**



**Figure
BC7**



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Figure BC9:

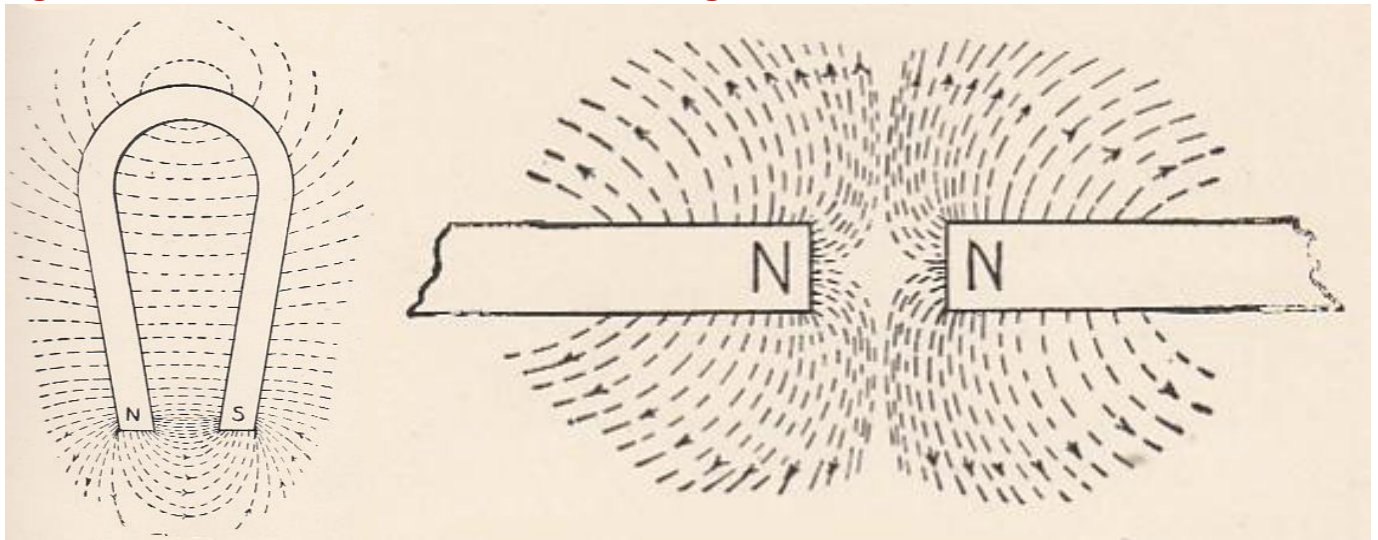


Figure BC11:

Figure BC7: Searl says that the magnetic field due to a single pole consists of straight lines passing through its centre. Searl says if it be a North Pole, their direction is from it, and if a South Pole, towards it. This can easily be shown by standing a long bar magnet upright on one end, placing a piece of cardboard over its upper end, and sprinkling **iron Fe 29** filings on it. Searl says, if the cardboard be gently tapped, the filings will arrange themselves in straight lines passing through the pole.

Figure BC8: illustrates the field due to an ordinary bar magnet. The lines of **force** from a series of oval curves, the greater the number which strikes the ends of the magnet. The arrows indicate that the direction of the lines is from the North Pole end to the South Pole end of the magnet. Searl hopes that he is explaining this **magnetic information** of **1947**. Since those days knowledge has increased greatly as you will see through this document.

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Figure BC9: Searl states that a **magnetic field** is shown, due to two unlike poles of two bar magnets. The lines in the centre portion emerge from the **North Pole** and enter the **South Pole**. The **influence** of the other **poles** of the **magnets** can be distinctly felt, and is shown by the **lines of force** to the **right** and **left** of the diagram bending round, as in this case of the single **bar magnet**.

Figure BC10: depicts the field of a **horseshoe magnet**. The lines in the region near and above the poles take the same form as that shown in **Figure BC9**: and the field between and on the outer sides of the prongs consists of lines of force which are nearly straight.

Figure BC11: Shows a very interesting magnetic field of the two North Poles of two bar magnets. The repulsion of these like poles is clearly seen by the lines of force from each pole bending away from each other, and the open space is left in the centre. The influence of the **South Poles attracts** the lines which are nearer the centre of the **magnets**.

Searl states that all the above figures can be verified by placing a sheet of paper over the magnets and sprinkling **iron Fe 29** filings upon it. On gently tapping the paper the filings will arrange themselves as shown in the sketches. Searl wonders if you spotted in **figure BC11**: that the magnetic effects are basically similar to that of the **S.E.G.** which was discovered early **18th century**, late **18th century** movies were including various demonstrations of this effect to enhance movies. But since **1946** Searl has created the **concept of the S.E.G.** which employs this effect to an advantage of producing **electrical energy**.

Let us returned to Searl continue education **1946 – 1947**:

MEASURING CURRENT:



Searl states that **current** are the flow of electrons from a negative to a positive charge. To measure current flow, we must measure the number of electrons flowing past a point in a specific length of time. Before Searl discuss how **current** is measured, Searl must first define the unit of electrical charge and the **unit of current**.

THE COULOMB:



Searl understands that the charge on an object is determined by the number of electrons which the object loses or gains. If the **object loses electrons**, the **charge** is **positive**. However, an object which **gains electrons** has a **negative charge**. The **unit of electrical charge** is called the **Coulomb**. The coulomb is equal to the charge of **6.25×10^{18}** electrons. For those who are not use to expressing numbers in this way, the number is:

6,250,000,000,000,000,000

Searl may sometimes repeat things just to remind you of issues involved in his work.

Searl states that an object which has gained 6.25×10^{18} electrons has a negative charge of one coulomb. Searl states that on the other hand, an object which has given up 6.25×10^{18} electrons has a positive charge of one coulomb.



POWERS OF TEN AND SCIENTIFIC NOTATION:

Searl like to give you a word about powers of ten and scientific notation may be helpful at this point. The number **6,250,000,000,000,000** can be expressed as 6.25×10^{18} . This number is read **six point two five times ten to the eighteenth power**. The expression **ten to the eighteenth power** means that the decimal place in **6.25** should be moved **18** places to the right in order to convert to a proper number. Searl states that the theory is that it is easier to write and remember 6.25×10^{18} than it is to write and remember **6,250,000,000,000,000**. Searl states that this shorthand method of expressing numbers is known as **powers of ten** or **scientific notation**. Searl will remind you later again to help you understand his world.

Searl reminds you that it is often used in **electronics** to express very large and very small numbers. Searl says that very small numbers are expressed by using **negative powers** of ten. For example, 3.2×10^{-8} is scientific notation for the number **0.00000032**. Here, **ten to the minus eight power** means move the decimal place in **3.2 eight places** to the left. To be sure you have the idea, let's look at some examples of both positive and negative powers of ten:

Positive Powers of Ten:

$$7.9 \times 10^4 = 79,000$$

$$9.1 \times 10^8 = 910,000,000$$

$$1.0 \times 10^{12} = 1,000,000,000,000$$

$$1.0 \times 10^{15} = 1,000,000,000,000,000$$

Negative Powers of Ten:

$$7.9 \times 10^{-4} = 0.00079$$

$$9.1 \times 10^{-8} = 0.000\ 000\ 091$$

$$1.0 \times 10^{-12} = 0.000\ 000\ 000\ 001$$

$$1.0 \times 10^{-15} = 0.000\ 000\ 000\ 000\ 001$$



Searl ask that you study these examples until you get the idea of this system of writing numbers. Searl will be presenting you with a programmed instruction sequence designed to teach powers of ten and scientific notation in much greater detail.

THE AMPERE:



Searl states that the **unit of current** is the **ampere**. The **ampere** is the **rate** at which electrons move past a given point. As Searl has mentioned above, **1 coulomb** equal to 6.26×10^{18} **electrons**. An ampere is equal to **1 coulomb per second**. That is, if **1 coulomb** (6.25×10^{18} **electrons**) flows past a given point in **1 second** then the **current** is equal to **1 amperer**. **Coulombs** indicate **numbers of electrons**: **amperes** indicate the **rate** of **electron flow** or **coulombs persecond**. Searl education grew from many sources of training, from which the **S.E.G.** concept was conceived. But it took **thousands** of **people** and **millions** of **years** to do. Few people think you can make an **S.E.G.** in **3 months cheap** – really? That I would like to see.

Searl states that when 6.25×10^{18} electrons flow through a wire each second, the current flow is 1 ampere. If twice this number of electrons flows each second, the current is 2 amperes. This relationship is expressed by the equation:

$$\text{Amperes} = \frac{\text{Coulombs}}{\text{Seconds}} = \frac{6.25 \times 10^{18}}{1} = \frac{6,250,000,000,000,000,000}{1} = 1\text{A}$$

Flowerbower is that correct?

Searl state, that if **10 coulombs** flow past a point in **two seconds**, then the **current flow** is **5 amperes**:

$$\text{Amperes} = \frac{\text{Coulombs}}{\text{Seconds}} = \frac{10 \times 10^{18}}{2} = \frac{10,000,000,000,000,000,000}{2} = 5\text{A}$$

Flowerbower is this correct?



After all: **Charles Augustin. de Coulomb (1736 – 1806)** was a great **French physicist** surely he cannot be wrong, or can he be wrong **Flowerbower**? Searl states that there is only one answer that is to check by experimenting first with values; to get to grips with the system, and then check the above value. What do you think of that idea **Flowerbower**?

Flowerbower here is a simple question: What name is given to the numeral written below the line of the above sample, which is a **2**? Thus, **Flowerbower** what we have to do is to change $\frac{1}{4}$ to an equivalent decimal. All you need to do is to divide **1** by **4**: Which is quite simple.

0.25 Answers: Divide **144** by **0.006**:

4)1.00 **144** 144 x 1000 144,000

4)10 ----- = ----- = ----- = 24,000

8 **0.006** 0.006 x 1000 6

4)20

0

Flowerbower, is this the correct answer?



Welcome to my
life of work!

There is not enough space to do a full workout of that large number here, so will have to go to the next page.

• • • - • • / - • --- / • - • • --- - • - • • • - • / • - - • - • - • • • • - • / • - • - • //

6)144000(024,000 **Flowerbower** here is the proof the above answer is correct.

6)14(2
6)24(4
00



728BC: **Olympia, Greece**, for the last time the **Olympics** comprises a single event.

...../////

2) 10,000,000,000,000,000(5, Amps. There **Flowerbower**: that was not difficult was it?

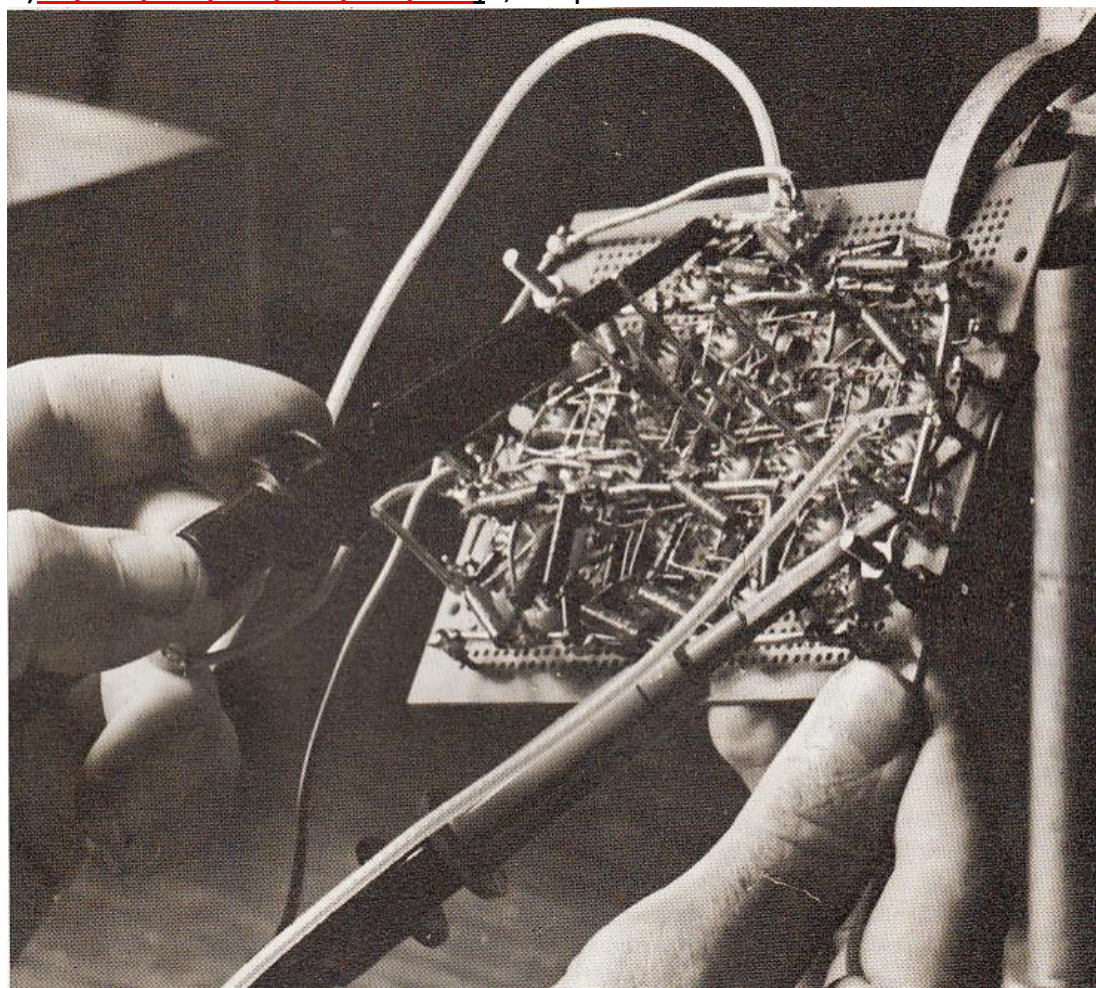


Figure PS1:

Transistors the size of a pencil stubs do the work of much larger valves in controlling amplifying electric currents. But the circuit being planned on your left will be reproduced in even more miniature form as an integrated circuit in a silicon Si 14 chip less than two millimeters square.

Conductors and transistors: At temperature near absolute zero the electrical resistance of certain metals and alloys becomes vanishingly small. In certain other substances, however, it decreases as temperature rises.

Before you can understand the **S.E.G**, you need to understand materials, elements, compounds, tools, and test equipment, machinery by which you can manufacture such devices, then robotics and automation for mass production requirements. Do you really have that?

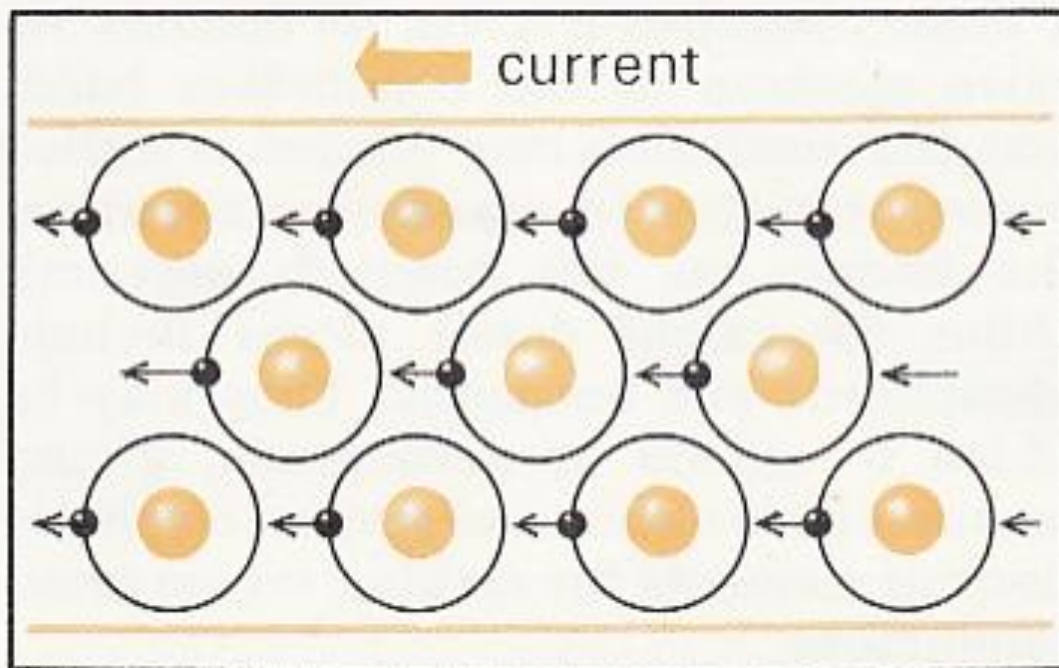
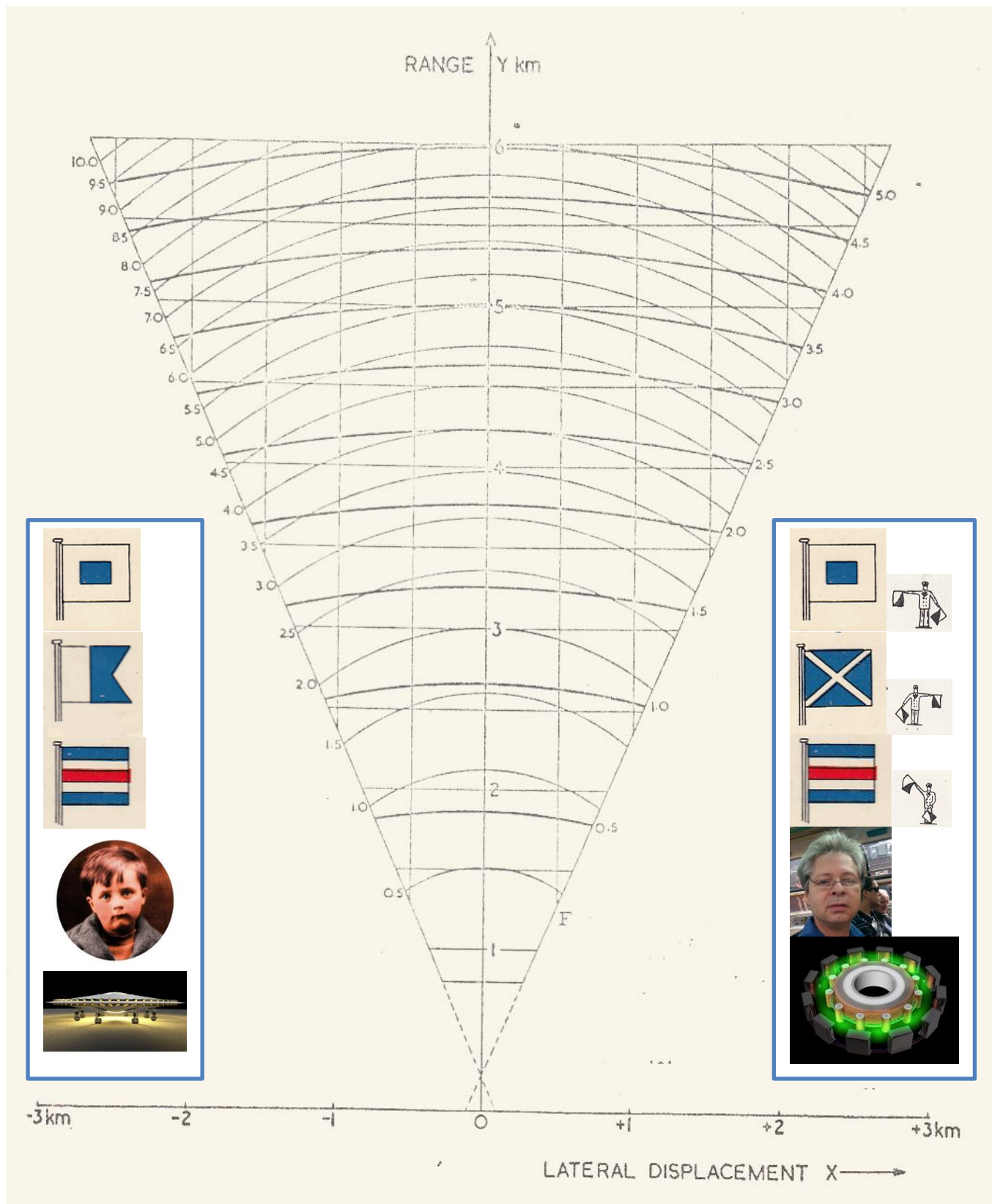


Figure PS2: an **electric current** is made up of **electrons** on the **move**. **Metals** make **good conductors** because they have a plentiful supply of **free electrons** available to move along the lattice of atoms.

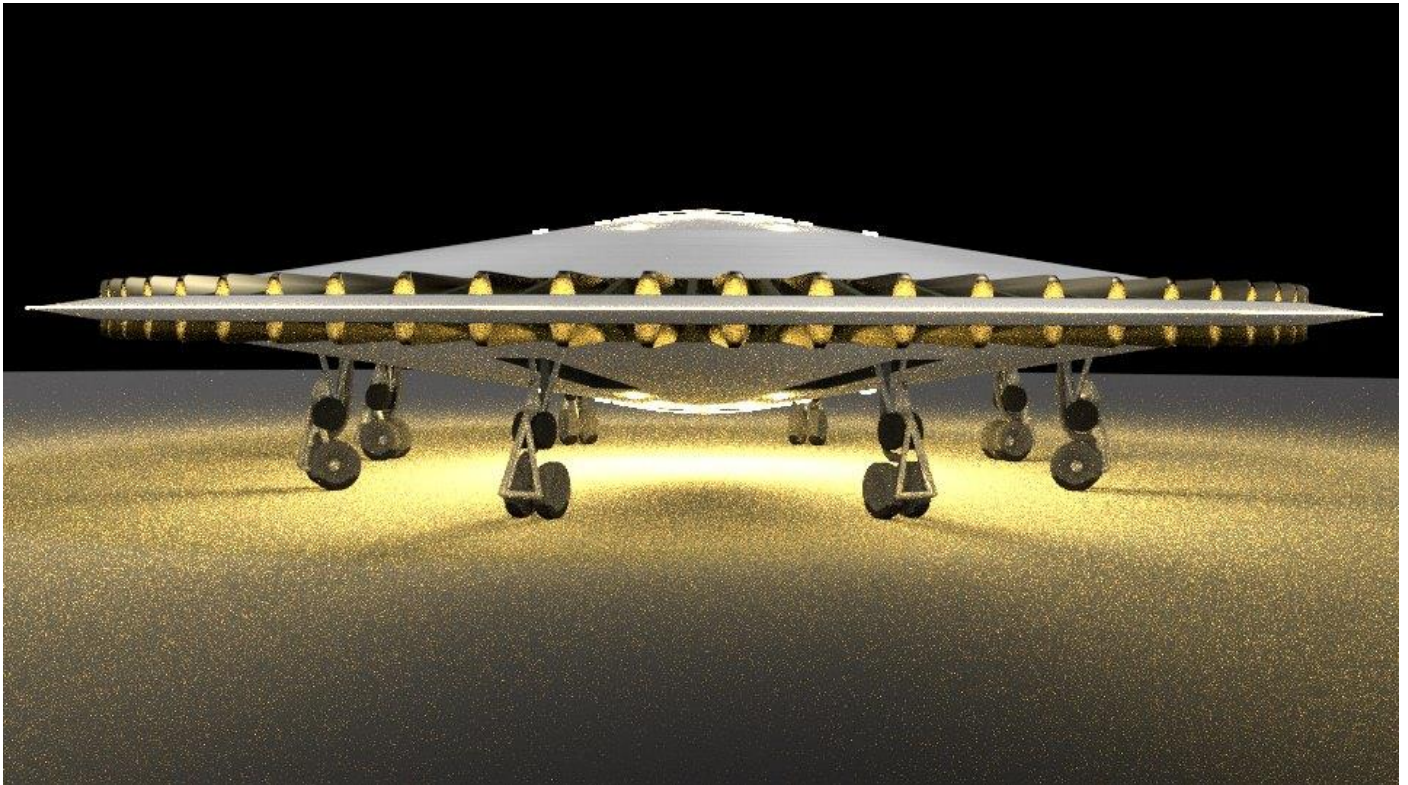
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Flowerbower: the world's top physicist: tell the world what this is about. I doubt if you have the brains to be able to say what this represents. I shall tell you what it represents in book Aerodrome manual part 3 to be again release later. Rules: which I had to understand for CAA. Wednesday 24th December 2014 going to **Gillespie airfield** to greet an airline pilot who wish to meet me; will also bring a passenger who wishes to meet me **Flowerbower**!

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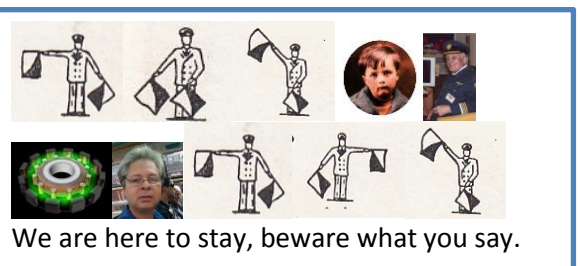
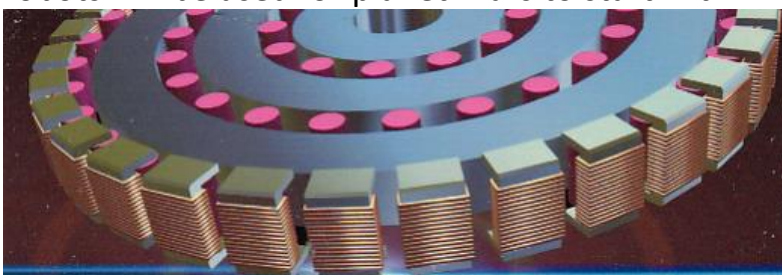


SPACE PROJECT EXPLOROR

ANew concept in S.V.T. (Space Vehicle Technique) by co-operating with nature, gravity, and electro-magnetism man could travel, faster, cheaper, and safer than by rocket.

But the cost today will be so great that it may now be impossible to manufacture it. Searl will be recalculating the figures for the smaller craft termed **EXPLORER 1** late **2015** and look at the cost which would be involved. The engineering tools would have to be made; which will be massive in structure design and extremely costly.

First action in **2015** is to get the new magnetiser functioning absolutely correct for any ring size needed up to a certain diameter. From then on it's all downhill for us. The spacecraft is not the problem; it's the living form, not robots. All animals got the same problem; it is due to their functions which robots do not have. Therefore I would guess for practical purpose, robots will be used for planet Mars to start with.



This domestic **S.E.G.**: would have to be hundreds of times larger, for the **I.G.V.** power unit. **Hell Flowerbower**, God almighty top expert of the world, heaven helps us from this maniac.

• • • • • / • • • • • / • • • • • / • • • • • / • • • • • //

Reactance of inductors at spot frequencies

	50 Hz	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	10 MHz	100 MHz
1 μ H	—	—	—	—	0.63	6.3	63	630
5 μ H	—	—	—	0.31	3.1	31	310	3.1 k
10 μ H	—	—	—	0.63	6.3	63	630	6.3 k
50 μ H	—	—	0.31	3.1	31	310	3.1 k	31 k
100 μ H	—	—	0.63	6.3	63	630	6.3 k	63 k
250 μ H	—	0.16	1.6	16	160	1.6 k	16 k	160 k
1 mH	0.31	0.63	6.3	63	630	6.3 k	63 k	630 k
2.5 mH	0.8	1.6	16	160	1.6 k	16 k	160 k	1.6 M
10 mH	3.1	6.3	63	630	6.3 k	63 k	630 k	6.3 M
25 mH	8	16	160	1.6 k	16 k	160 k	1.6 M	—
100 mH	31	63	630	6.3 k	63 k	630 k	6.3 M	—
1 H	310	630	6.3 k	63 k	630 k	6.3 M	—	—
5 H	1.5 k	3.1 k	31 k	310 k	3.1 M	—	—	—
10 H	3.1 k	6.3 k	63 k	630 k	6.3 M	—	—	—
100 H	31 k	63 k	630 k	6.3 M	—	—	—	—

Values above 10 M Ω and below 0.1 Ω not shown. Values in ohms.



Figure RE35: Flowerbower, this I had to understand in the military and civilian world and will apply to **Searl Global Technologies** as well. What about your military life?

This document gives an insight of the **FACTS** of Searl life and work, in the effort to clean up the crap on the internet which is slander and theft of equipment and also information theft. Even today same problem: group telling the public they own this technology and term logic as used by Searl, whereby they do not own anything, or the rights even to use Searl name or terms which he uses to get money. But they are; which means they are committing a crime of conning the public; because they are receiving money for a technology they do not own or have the rights to.

Resistor and capacitor colour coding

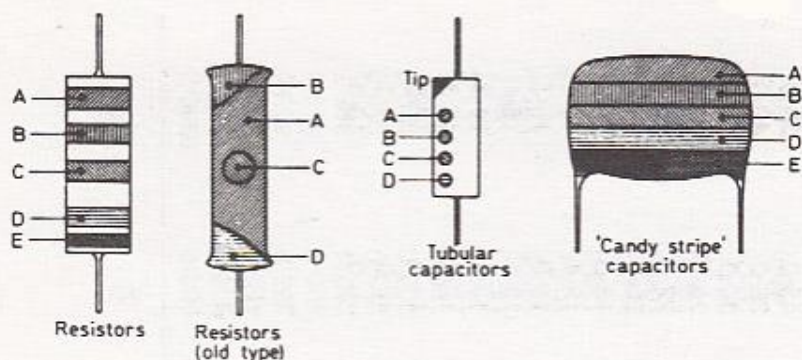
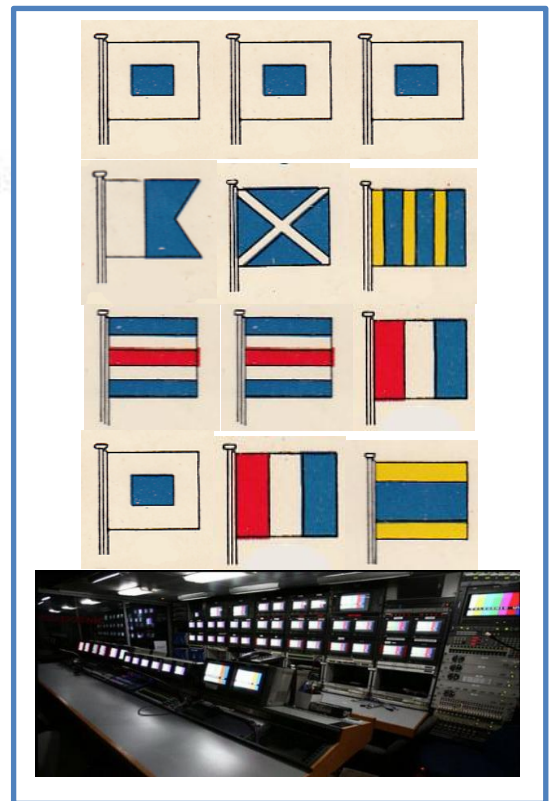
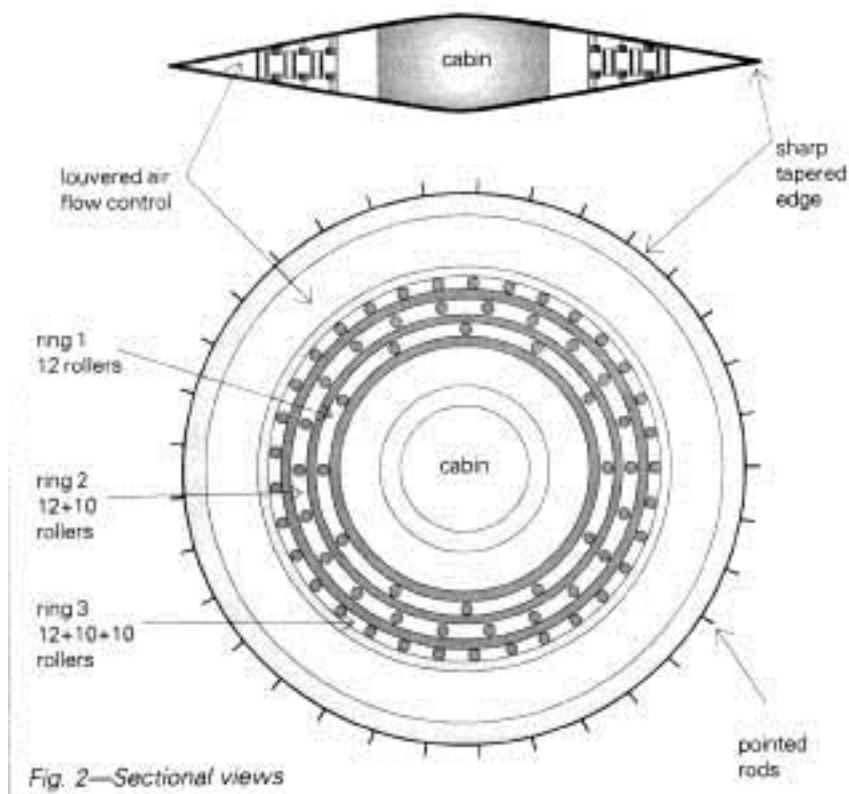


Figure RE34: Flowerbower this is just another requirement of my military and civilian jobs required in the electronic domain. Not needed in the medical domain.



I'm here watching you watching me, watching you. Beware I bite hard!

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Searl states that rotating around the nucleus are electrons. **NOTICE** that the **helium** H.2: atom has two electrons. **Flowerbower**; these electrons are extremely light and they travel at fantastic speeds. Searl has always stated that the atom can be compared to the solar system since **1946** with the nucleus representing the **Sun** and the electrons representing the **planets**. Searl points out that the **electrons orbit** the **nucleus** in much the same way that the **planets orbit the Sun**. This also applies to the **S.E.G.** The roller sets act like planets, while the plate acts as the Sun – I expect that is far too complicated for **Professor Steven Donnelly** to understand.

Searl reminds you that it is interesting to **note Flowerbower**; that no one in my days has ever seen an atom because of its small size. **What about that FB? Do you know what that means?** Thus, **Flowerbower**; any picture of the atom must be based on **assumptions** rather than **actual observation**. Searl states that **Figure CE 1-3**: represents a very simple picture of the atom based on these **assumptions**. Searl states: as time changes; so do our **assumptions** change and therefore, today, much more complex models of the atom have been proposed. Searl confirms that this also applies to both the **S.E.G.** and the **I.G.V.** as their knowledge base changes; also improves our base knowledge on both subjects.

Searl has and will be showing how our knowledge has changed over time, which therefore, makes his task much more easy, than if he had to do all that research work before he could start on his tasks. That is why Searl has always stated that it's taken centuries and hundreds of real experts to have reached this stage of the **S.E.G. feasibility**. Early **18th** century started the real effort of the **S.E.G.** based upon world records and film archives.

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Photo: taken at Space station Earth 1, in Berkshire. UK by the media.

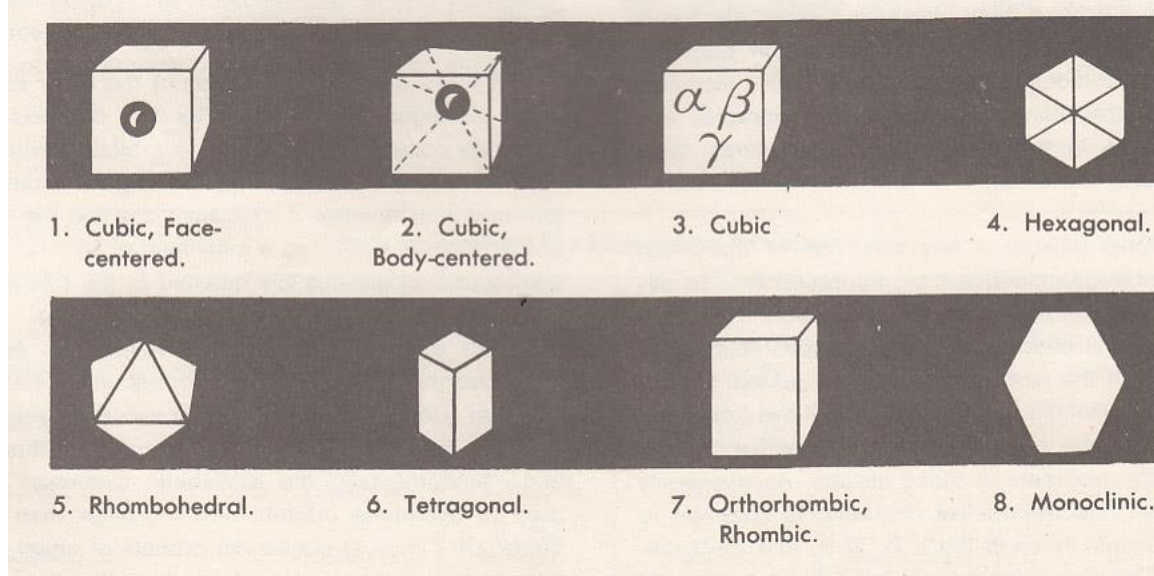


Figure CA2: Conventional Diagrams of Crystal Forms: 1953: my advanced education upon the atom structure **Flowerbower**. Searl stated many times on air that no law of nature, however general, has been established at once, its establishment is always preceded by many presentiments, but the acknowledgment of the law does not take place when it is recognized in all its significance, but only when it is confirmed by experiment which the scientific man/woman must look to as the correctness of his/her conjectures and opinions. Yes, Flowerbower, such statements have been made many times over centuries of time. Such statements will continue to be in the future.

Searl has always stated since **1946**, that there are no laws in nature that states it's impossible, except that the state of your mind makes it so. My mind is open to **FACTS**.



•••••--•••/•••--•••/•••--•••//•••--•••-/•••--•••//

1	2	3	4	5	6	7	8	9	10
Atomic No. Z	Element	Sym-bol	Atomic Diameter 10^{-10}m	First Ionization Potential V	Chemical Valence	Configura-tion of Valence Electrons	Spectral Term of Ground State	Wavelength of Most Intense Spectral Line 10^{-10}m	Atomic No. Z
1	Hydrogen	H	1.58	13.598	1	$1s^1$	$^2S_{0\frac{1}{2}}$	1215.66	1
2	Helium	He	0.98	24.587	0	$(1s^2)$	1S_0	584.33	2
3	Lithium	Li	4.10	5.392	1	$2s^1$	$^2S_{0\frac{1}{2}}$	6707.85	3
4	Beryllium	Be	2.80	9.322	2	$2s^2$	1S_0	2348.61	4
5	Boron	B	2.34	8.298	3	$2s^2 2p^1$	$^2P_{0\frac{1}{2}}$	2497.73	5
6	Carbon	C	1.82	11.260	$\pm 4, 2$	$2s^2 2p^2$	3P_0	1657.01	6
7	Nitrogen	N	1.50	14.534	$\pm 3, 5, 2$	$2s^2 2p^3$	$^4S^{\circ}_{1\frac{1}{2}}$	1134.98	7
8	Oxygen	O	1.30	13.618	-2	$2s^2 2p^4$	3P_2	1302.19	8
9	Fluorine	F	1.14	17.422	-1	$2s^2 2p^5$	$^2P^{\circ}_{0\frac{1}{2}}$	954.82	9
10	Neon	Ne	1.02	21.564	0	$(2s^2 2p^6)$	1S_0	735.89	10

Flowerbower this is just a small part of my education late 1948. More will be presented for all to see how determined I was to get high paid jobs. And thereby, prove that I was better off by not having formal education training as these experts claimed to have had. Otherwise, I would be just as insane as them.

Searl states that the **Periodic Chart Flowerbower** of the atoms is designed to give physicist, chemist and inventors like me a vivid grasp of the unity of atoms, their structure and behaviour, their mode of formation and disintegration. Searl accepts that the atom is today the outstanding topic of interest, if not; it is to Searl to the world of science. Searl states that when the magic is realized, the atom will become as fascinating for popular study and experiment, which Searl has been doing all these years, as the camera, motor and radio.

Searl says that indeed, the individuality of the atom and its varied properties already form subjects of surpassing interest – the **S.E.G.** – light giving phosphorus, magnetic **iron**, odorous **bromine**, light sensitive **selenium**, the super hardness of crystal **carbon**, the softness of **lead**, the toughness of **tantalum**, the explosive **radium**, the inert **helium**, the active **oxygen**, **calcium** the bone maker, **nitrogen**, the keystone of unstable molecules of food, drug, and high explosives, **copper**, the speedway for electrons, **chlorine** the scavenger, **iodine** controlling body growth, energetic **uranium**, **chromium** the colour maker, and scores of others having equally interesting individuality and unique behaviour. We shall learn much more later on upon the atom. Most individuals have no idea about atoms – and that they are also atoms **Flowerbower**.

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1	2	3	4	5	6	7	8	9	10
Atomic No. Z	Element	Sym- bol	Atomic Diameter 10 ⁻¹⁰ m	First Ionization Potential V	Chemical Valence	Configura- tion of Valence Electrons	Spectral Term of Ground State	Wavelength of Most Intense Spectral Line 10 ⁻¹⁰ m	Atomic No. Z
11	Sodium	Na	4.46	5.139	1	3s ¹	² S _{0 1/2}	5889.95	11
12	Magnesium	Mg	3.44	7.646	2	3s ²	¹ S ₀	2852.13	12
13	Aluminum	Al	3.64	5.986	3	3s ² 3p ¹	² P _{0 1/2}	3961.53	13
14	Silicon	Si	2.92	8.151	±4	3s ² 3p ²	³ P ₀	2516.12	14
15	Phosphorus	P	2.46	10.486	5, ±3	3s ² 3p ³	⁴ S _{0 1/2}	1774.94	15
16	Sulfur	S	2.18	10.360	6, 4, -2	3s ² 3p ⁴	³ P ₂	1807.34	16
17	Chlorine	Cl	1.94	12.967	±1, 7, 5	3s ² 3p ⁵	² P _{0 1/2}	1347.24	17
18	Argon	Ar	1.76	15.759	0	(3s ² 3p ⁶)	¹ S ₀	1048.22	18
19	Potassium	K	5.54	4.341	1	4s ¹	² S _{0 1/2}	7664.91	19
20	Calcium	Ca	4.46	6.113	2	4s ²	¹ S ₀	4226.73	20
21	Scandium	Sc	4.18	6.54	3	3d ¹ 4s ²	² D _{1 1/2}	3911.81	21
22	Titanium	Ti	4.00	6.82	4, 3	3d ² 4s ²	³ F ₂	3653.50	22
23	Vanadium	V	3.84	6.74	5, 4, 2	3d ³ 4s ²	⁴ F _{1 1/2}	4379.24	23
24	Chromium	Cr	3.70	6.766	3, 6, 2	3d ⁵ 4s ¹	⁷ S ₃	3578.69	24
25	Manganese	Mn	3.58	7.435	2, 7, 4, 6, 3	3d ⁵ 4s ²	⁶ S _{2 1/2}	4030.76	25
26	Iron	Fe	3.44	7.870	3, 2	3d ⁶ 4s ²	⁵ D ₄	3719.93	26
27	Cobalt	Co	3.34	7.86	2, 3	3d ⁷ 4s ²	⁴ F _{4 1/2}	3453.50	27
28	Nickel	Ni	3.24	7.635	2, 3	3d ⁸ 4s ²	³ F ₄	3414.76	28
29	Copper	Cu	3.14	7.726	2, 1	(3d ¹⁰) 4s ¹	² S _{0 1/2}	3247.54	29
30	Zinc	Zn	3.06	9.394	2	4s ²	¹ S ₀	2138.56	30
31	Gallium	Ga	3.62	5.999	3	4s ² 4p ¹	² P _{0 1/2}	4172.06	31
32	Germanium	Ge	3.04	7.899	4	4s ² 4p ²	³ P ₀	1998.89	32
33	Arsenic	As	2.66	9.81	±3, 5	4s ² 4p ³	⁴ S _{0 1/2}	1890.43	33
34	Selenium	Se	2.44	9.752	4, 6, -2	4s ² 4p ⁴	³ P ₂	1960.91	34
35	Bromine	Br	2.24	11.814	±1, 5	4s ² 4p ⁵	² P _{0 1/2}	1488.45	35
36	Krypton	Kr	2.06	13.999	0	(4s ² 4p ⁶)	¹ S ₀	1164.87	36
37	Rubidium	Rb	5.96	4.177	1	5s ¹	² S _{0 1/2}	7800.23	37
38	Strontium	Sr	4.90	5.695	2	5s ²	¹ S ₀	4607.33	38
39	Yttrium	Y	4.54	6.38	3	4d ¹ 5s ²	² D _{1 1/2}	4102.38	39
40	Zirconium	Zr	4.32	6.84	4	4d ² 5s ²	³ F ₂	3601.19	40
41	Niobium	Nb	4.16	6.88	5, 3	4d ⁴ 5s ¹	⁶ D _{0 1/2}	4058.94	41
42	Molybdenum	Mo	4.02	7.099	6, 3, 5	4d ⁵ 5s ¹	⁷ S ₃	3798.25	42
43	Technetium	Tc	3.90	7.28	7	4d ⁵ 5s ²	⁶ S _{2 1/2}	3636.10	43
44	Ruthenium	Ru	3.78	7.37	3, 4, 6, 8	4d ⁷ 5s ¹	⁵ F ₅	3498.94	44
45	Rhodium	Rh	3.66	7.46	3, 4	4d ⁸ 5s ¹	⁴ F _{4 1/2}	3434.89	45
46	Palladium	Pd	3.58	8.34	2, 4	(4d ¹⁰)	¹ S ₀	3404.58	46
47	Silver	Ag	3.50	7.576	1	5s ¹	² S _{0 1/2}	3280.68	47
48	Cadmium	Cd	3.42	8.993	2	5s ²	¹ S ₀	2288.02	48
49	Indium	In	4.00	5.786	3	5s ² 5p ¹	² P _{0 1/2}	4511.32	49
50	Tin	Sn	3.44	7.344	4, 2	5s ² 5p ²	³ P ₀	2839.99	50

Figure CA30: Flowerbower this is what you need to know before you try to make an **S.E.G.**
Page 67©

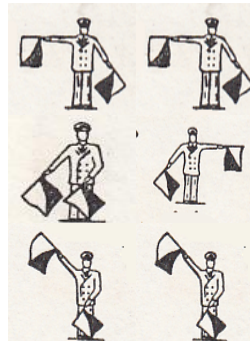
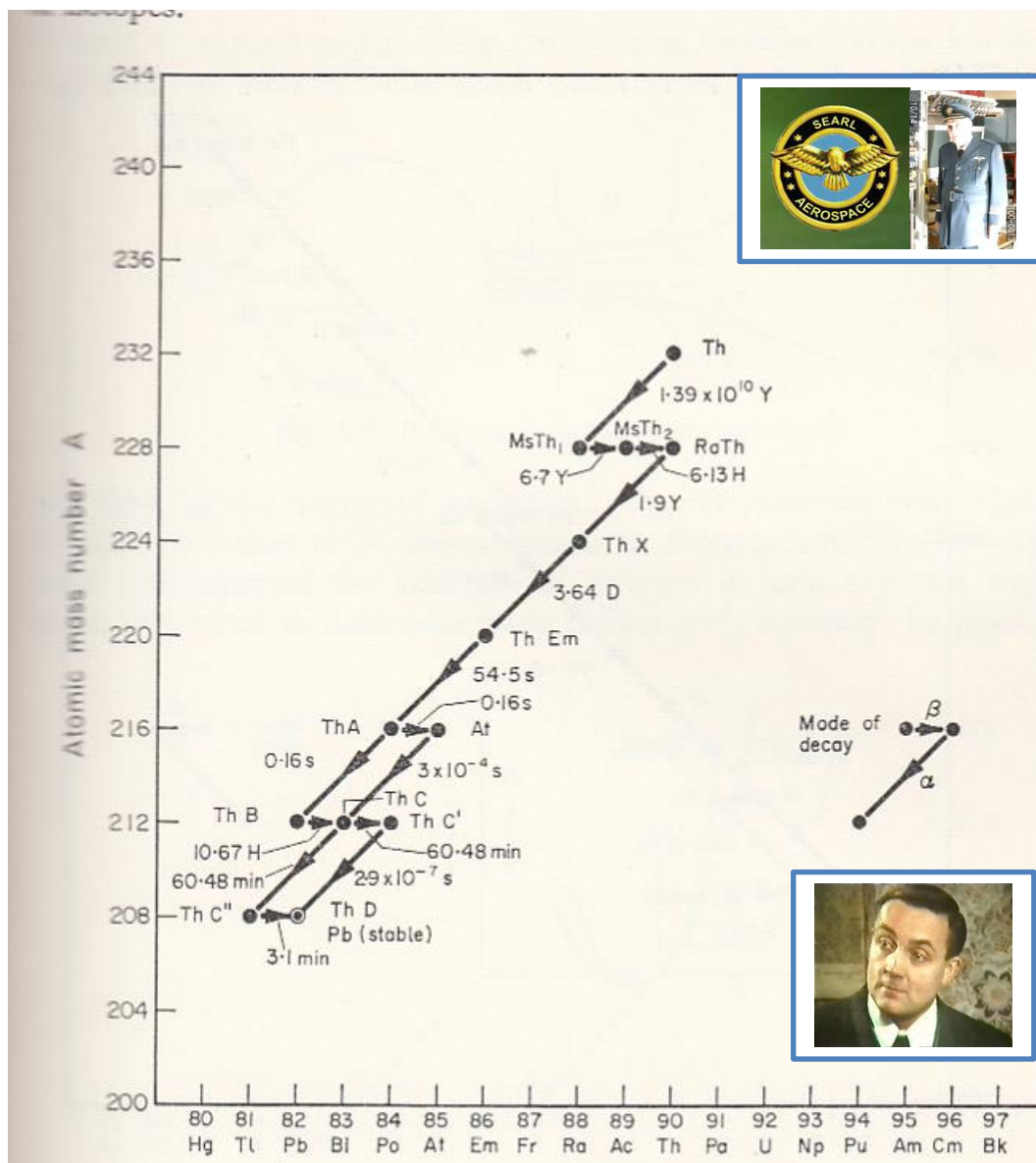
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1	2	3	4	5	6	7	8	9	10
Atomic No. Z	Element	Sym-bol	Atomic Diameter 10^{-10} m	First Ionization Potential V	Chemical Valence	Configura-tion of Valence Electrons	Spectral Term of Ground State	Wavelength of Most Intense Spectral Line 10^{-10} m	Atomic No. Z
86	Radon	Rn	2.68	10.748	0	$(6s^2 6p^6)$	1S_0	1786.07	86
87	Francium	Fr	—	—	1	$7s^1$	$^2S_{1/2}$	7177.00	87
88	Radium	Ra	—	5.279	2	$7s^2$	1S_0	4825.91	88
89	Actinium	Ac	—	5.17	3	$6d^1 7s^2$	$^2D_{3/2}$	4179.98	89
90	Thorium	Rh	—	6.08	4	$6d^2 7s^2$	3F_2	3719.44	90
91	Protactinium	Pa	—	5.89	5, 4	$5f^2 6d^1 7s^2$	$^4K_{5/2}$	3957.85	91
92	Uranium	U	—	6.05	6, 5, 4, 3	$5f^3 6d^1 7s^2$	5L_6	3584.88	92
93	Neptunium	Np	—	6.19	5, 6, 4, 3	$5f^4 6d^1 7s^2$	$^6L_{5/2}$	6972.09	93
94	Plutonium	Pu	—	6.06	4, 6, 5, 3	$5f^6 7s^2$	7F_0	4385.10	94
95	Americium	Am	—	5.993	3, 4, 5, 6	$5f^7 7s^2$	$^8S_{3/2}$	6054.64	95
96	Curium	Cm	—	6.02	3	$5f^7 6d^1 7s^2$	$^9D_{3/2}$	—	96
97	Berkelium	Bk	—	6.23	3, 4	$5f^9 7s^2$	$^6H_{7/2}$	—	97
98	Californium	Cf	—	6.30	3	$5f^{10} 7s^2$	5I_8	—	98
99	Einsteinium	Es	—	6.42	3	$5f^{11} 7s^2$	$^4I_{7/2}$	5204.40	99
100	Fermium	Fm	—	6.50	3	$5f^{12} 7s^2$	3H_6	—	100
101	Mendelevium	Md	—	6.58	3, 2	$5f^{13} 7s^2$	$^7F_{3/2}$	—	101
102	Nobelium	No	—	6.65	3, 2	$(5f^{14}) 7s^2$	1S_0	—	102
103	Lawrencium	Lr	—	—	3	$6d^1 7s^2$	$^2D_{3/2}$	—	103
104	Unnilquadium ¹	Unq	—	—	—	$6d^2 7s^2$	—	—	104
105	Unnilpentium ¹	Unp	—	—	—	$6d^3 7s^2$	—	—	105
106	Unnilhexium ¹	Unh	—	—	—	$6d^4 7s^2$	—	—	106

Figure CA31: Flowerbower this is still just a hair thickness of what you need to understand before you can make an **S.E.G.** Yes this was part of my **1946 – 1963** learning stage, even though I had created the concept in **1946**. Searl still had to learn about all the materials etc. to make it function, plus finding the gear to make it possible which meant skill staff, which actually made it possible. Which means: that you have to be in the right place at the right time; low and behold Searl happened to be in the right place at the right time.

Today, 2nd January 2015, Searl is most likely to be in the right place; but not yet at the right time. But **2015** may yet prove later in the year; to be the right time. Agree that what I expected today to happen went precisely as expected. No female reprehensive arrived from NASA, which was highly claimed to happen today: in last November. Nothing has changed since **1968**, the same old story, which Searl has heard a thousand times before.

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Action Stations we need your help today

Figure ANP4.7: Atomic Number Z: The Thorium series ($A = 4n$) Flowerbower this is just a wee bit more that I must know, not only to know but to understand what I know. Did you notice the **law of the squares** popping up again?

Searl Global Technologies expects every man/woman to do their duty to clean up this mess: that we have created, or the human race, will have to face the end sooner than later.

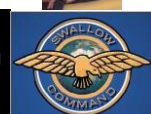
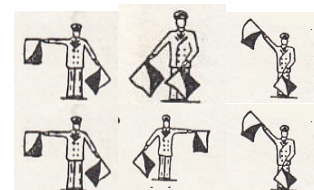
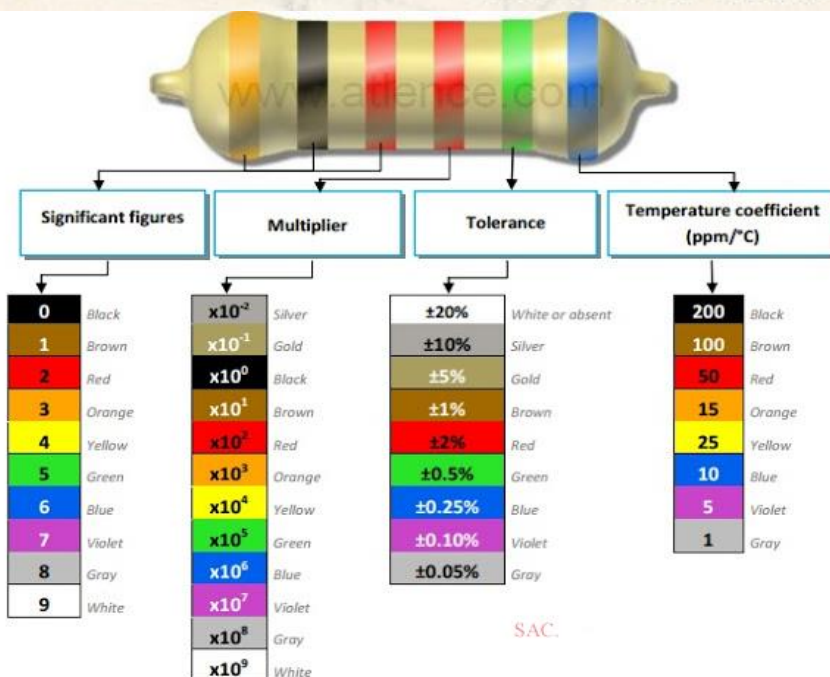
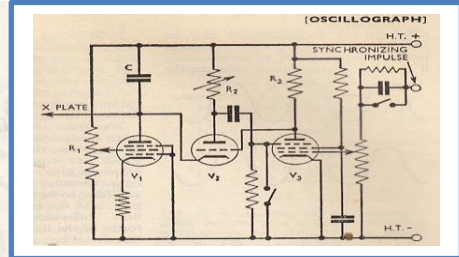
Searl states that you cannot escape the results of your thoughts....Whatever your present environment may be, you will fall, remain, or raise **Flowerbower** the great with your thoughts, your vision, your idea of proving Searl a con man, while Searl recovers from your evil attacks on him. **Flowerbower** you will become as small as your controlling desire and Searl as great as his dominant aspiration. **Note Flowerbower** your evil will never win, nor will **EX-STI** win either with their evil ways. **STI** your belief of my technology and terms as your own it is just an **illusion** of your mind, a **mental state** gone out of control. Each and every one of you should receive a **devoted 25 whacks** of the **cat** and **nine tails** to cure that problem for good.

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KEY No.	PART No.	QTY.	DESCRIPTION
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RESISTORS (composition)

A1	1-2	1	68 Ω 1/2 w 10% (blue, gray, black, silver)
A1	1-3	1	100 Ω 1/2 w 10% (brown, black, brown, silver)
A1	1-6	1	470 Ω 1/2 w 10% (yellow, violet, brown, silver)
A1	1-35	1	1 M Ω 1/2 w 10% (brown, black, green, silver)
A1	1-40	1	10 M Ω 1/2 w 10% (brown, black, blue, silver)
A1	1-58	1	22 K Ω 1/2 w 5% (red, red, orange, gold)
A1	1-60	1	68 K Ω 1/2 w 10% (blue, gray, orange, silver)
A1	1-80	1	1200 Ω 1/2 w 5% (brown, red, red, gold)
A1	1-90	1	2000 Ω 1/2 w 5% (red, black, red, gold)
A1	1-105	1	10 K Ω 1/2 w 5% (brown, black, orange, gold)
A1	1-123	1	100 Ω 1/2 w 5% (brown, black, brown, gold)
A1	1-137	1	200 Ω 1/2 w 5% (red, black, brown, gold)
A1	1-172	2	1000 Ω 1/2 w 5% (brown, black, red, gold)

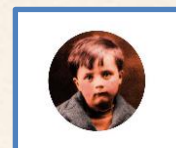


We are here in the USA to stay-watch what you say!

Resistance code chart which is used today: year **2014**.

● ● ● ● — ● — ● / ● ● ● — — ● — ● / ● ● ● — ● — ● / ● ● ● — — ● — / ● — ● — ● //

NOTE: The following resistors are in the envelope labelled: RESISTORS FOR EXPERIMENT 4 or R For Exp 4. Return these parts to the envelope after you have checked them.

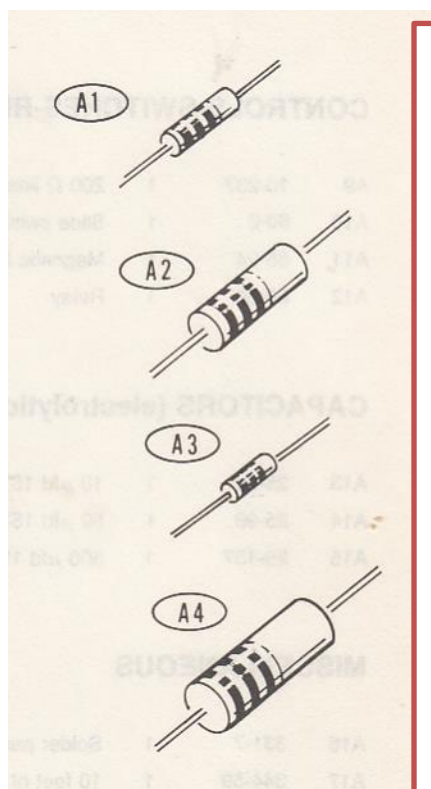


A2	1-1-1	1	470 Ω 1 w 10% (yellow, violet, brown, silver)
A2	1-2-1	1	1000 Ω 1 w 10% (brown, black, red, silver)
A3	1-4-12	1	2200 Ω 1/4 w 10% (red, red, red, silver)
A3	1-8-12	1	4700 Ω 1/4 w 10% (yellow, violet, red, silver)
A3	1-10-12	1	15 K Ω 1/4 w 10% (brown, green, orange, silver)
A2	1-11-1	1	10 Ω 1 w 10% (brown, black, black, silver)
A4	1-13-2	1	220 Ω 2 w 10% (red, red, brown, silver)
A3	1-13-12	1	560 Ω 1/4 w 10% (green, blue, brown, silver)
A4	1-20-2	1	100 Ω 2 w 10% (brown, black, brown, silver)
A1	1-24	1	33 K Ω 1/2 w 10% (orange, orange, orange, silver)
A1	1-29	1	220 K Ω 1/2 w 10% (red, red, yellow, silver)
A1	1-43	1	4700 Ω 1/2 w 5% (yellow, violet, red, gold)
A1	1-49	1	22 Ω 1/2 w 10% (red, red, black, silver)
A1	1-54	1	15 Ω 1/2 w 5% (brown, green, black, gold)
A1	1-57	1	2200 Ω 1/2 w 5% (red, red, red, gold)
A1	1-64	1	5100 Ω 1/2 w 5% (green, brown, red, gold)
A1	1-105	1	10 K Ω 1/2 w 5% (brown, black, orange, gold)
A1	1-129	1	4.7 Ω 1/2 w 10% (yellow, violet, gold, silver)
A1	1-139	1	100 M Ω 1/2 w 20% (brown, black, violet)
A1	1-141	1	1000 M Ω 1/2 w 20% (brown, black, gray)

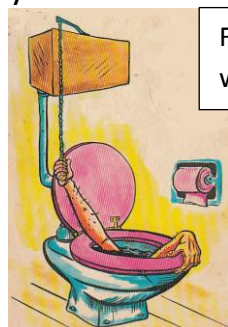
Parts List EE-3101

Flowerbower: this is proof of my past learning for my job, it was termed continue education. Any day you want to appear before the world cameras just let me know and I get Hollywood to set the test up **Flowerbower versa Professor Searl live** on California's largest stage. The world can see how educated you are. The world has been waiting for over 3 years for you to accept this challenge. The world wonders why you have failed as you told the world you were top man; sent by God to clean up the mess. You got it **wrong** he sent you for Searl to clean you up as the mess that needed cleaning up. **25 lashes** of the **cane** will help to clean you up fast **Flowerbower**!

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Flowerbower this is still my education training, here is a sample of the parts which was enclosed in the test to see that I understood the subject, which I did. On completing this training course as I passed, my job was secured. What is your education – the image I perceived about you: is that you live on government grants – in plain language a right old arsehole. Am I correct? A good for nothing idiot: a shear waist of atoms. Clearly the world be better place without you.



Flowerbower this is your home, why don't you go home where you belong? We all would wish you never return!



Goodbye beloved darling Flowerbower your home is waiting for you no rent to pay, food will be free.

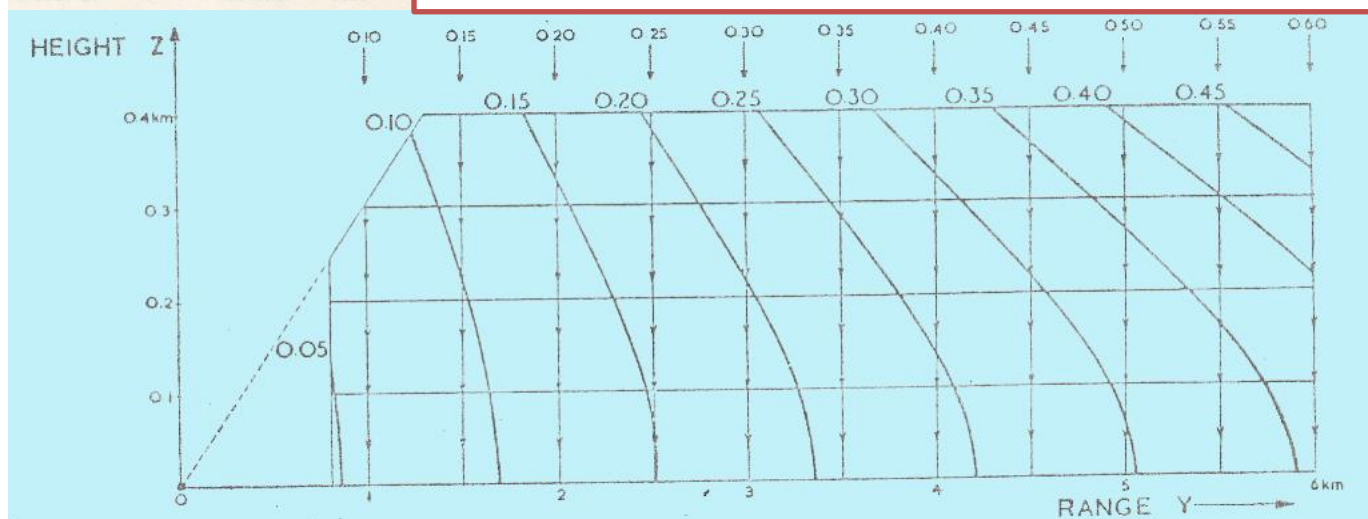
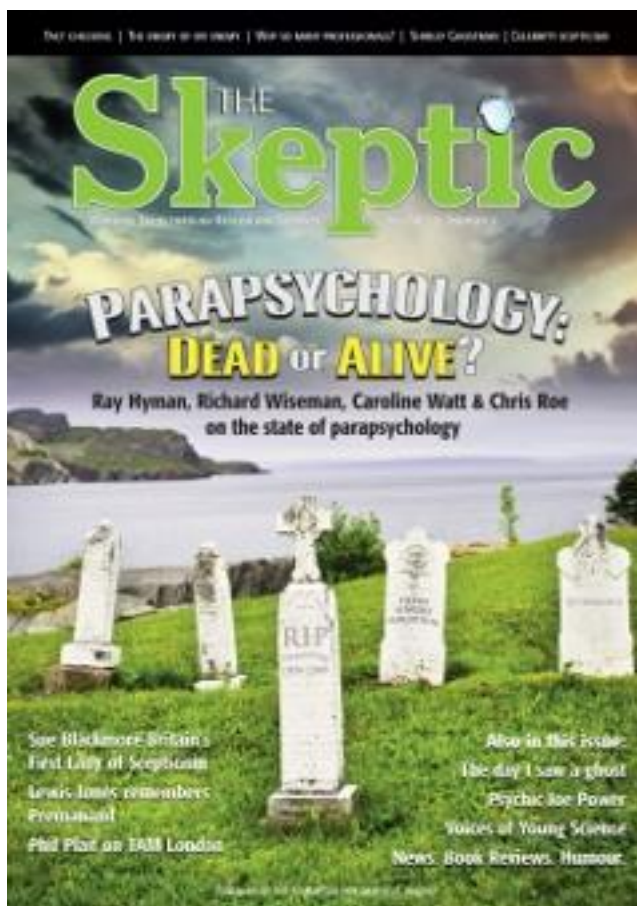


Figure AM4-3: CAA requirement of understanding, which Searl will discuss within the document **AERODROME MANUAL PART 3: obstruction Restriction, Removal and Marking**. **Flowerbower**, this set of documents are just clips from the full documents which have been released and going to be released upon my work. **Flowerbower: do you now feel like a fruit and nut case or an over ripe turd?** The purposes of these documents are to show officials how I intend my work to blend in with theirs, without an accident. Plus: **exposing the nut cases** around me like you **Flowerbower**, Brad Lockerman, Russell Anderson, John Thomas, and **EX-STI** group. Sad that Searl has to endure such **idiots**, when cost raises fast in relation to the product. Don't these fools release they are just pushing the cost up, until no one can afford to buy one: I wonder if that is precisely what they want to happen? So how do they think that they will win? They do not have the right class of magnetising equipment or how the materials have to be mixed, and they do not own the technology and it would not make the **Paul Brown crap** machine work either. So the public are being conned!

•••••-•••••/•••••-•••••/•••••-•••••/•••••-•••••-//



It is **insanity** of such **idiots** which has delay the **S.E.G.** reaching the marketplace. That God forsaken nut case name so-call **professor Stephen Donnelly** who continues to **slander** me and my staff and company will soon have to pay the price for his **insanity** attack on me.

The law must be tightening up to take these insane people out of action so the progress of science can advance quicker without them. The law is dragging its feet when Donnelly is committing serious crime against hard working people who are trying to solve our environmental condition. Donnelly who eats far better, has holidays and sleeps no doubt a number of hours. Luxury; which Searl does not have. Donnelly never invented the concept; therefore you can't have it.

Searl has to say sorry that a number of pages went astray in the actual writing of this document. Therefore, Searl is struggling to insert those missing pages as he unearth them, which Searl hope will not spoil the subject, at lease the truth will be present for your to judge.



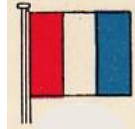
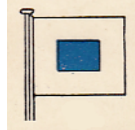
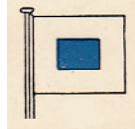
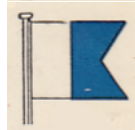
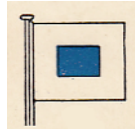
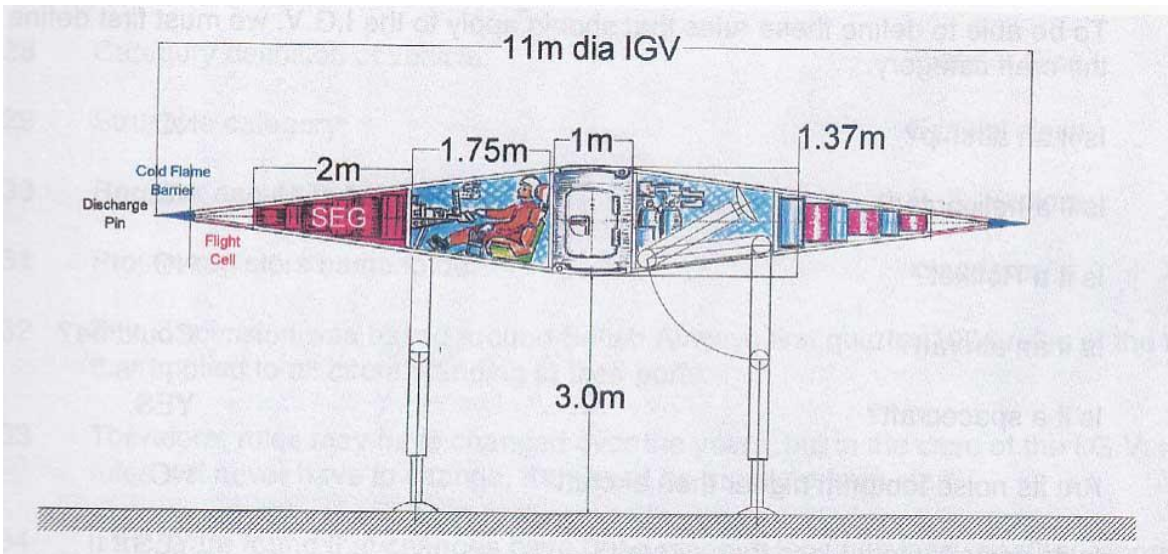
After the Pebble Mill transmission was completed. Professor Steven Donnelly wrote Luis Jarallo to look for the battery Searl is using in the model. Facts: model weighs 10 ton. It takes 50 H.P. extra for climbing. What on earth would the size of a battery be to look for? Searl asked Luis to ask him. Searl will be talking about H. P. later in this document. May be Donnelly think an AAA battery works it. What an idiot, if that is the case.

Demo one, was modelled to scale for Star Ship Ezekiel MK V project, to check if any problems existed which needed to be researched. It turn out cost was the problem; so I made changes by which the cost was lower. Sad this work was scraped as it should have been in a museum for the world to see what man can do if they just work together to achieve it.

I-G-V: is not an aircraft, balloon, airship, hovercraft, rotorcraft, rocket or a helicopter – then what is it?

It simply is a spaceship. It flies vacuum instead of air. **HOW?** Just read this document and find out why and how, which should be simple thing to do. After all I am writing it as simple as it is possible to do. At least try to read it or just look at the pictures.

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They all have one thing in common, they need current to move.

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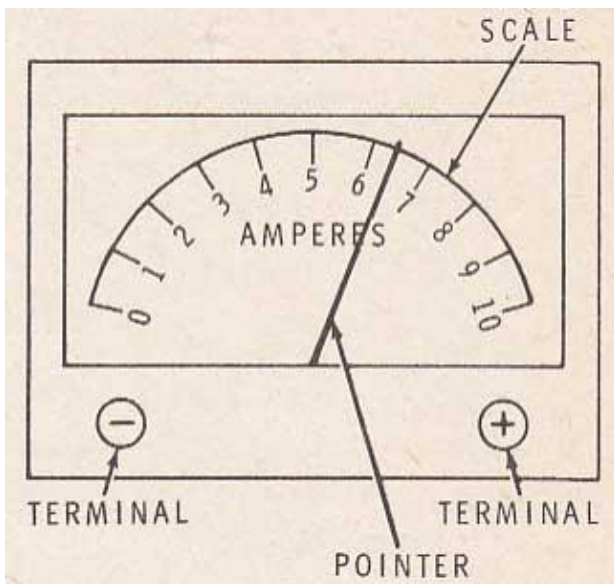


Figure CE 1-21: Ammeter.

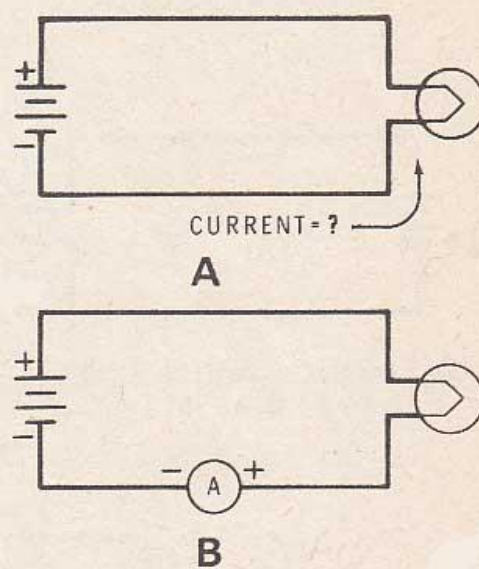


Figure CE 1-22: Measuring Current.

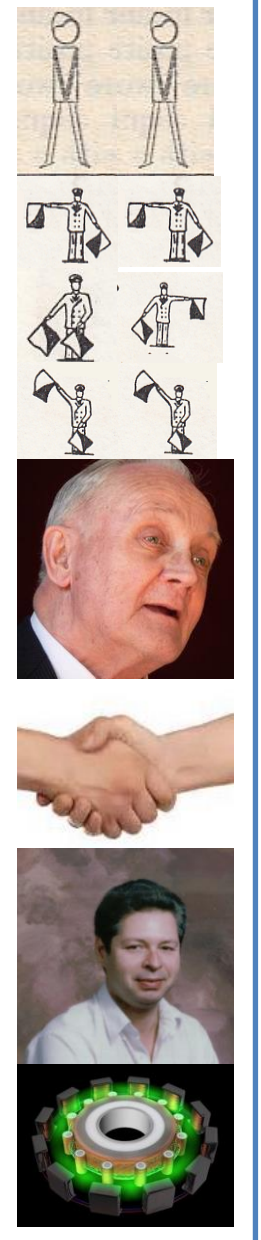
Searl; points out that the name ampere is often shortened to amp and is Abbreviated A. Many times the ampere is too large a unit. In these cases Metric prefixes are used to denote smaller units. The milliamperes (**mA**) Is one thousandth (**0.001**) of an ampere? The microampere: (**μA**) is one Millionth: (**0.000 001**) of an ampere. Searl say that in other words, there Are 1000 milliamperes or 1,000,000 microamperes in an ampere?

We change from amperes to milliamperes by multiplying by 10^3 . Thus, 1.7 amperes is equal to 1.7×10^3 milliamperes. Also, we can change From Amperes to microamperes by multiplying by 10^6 . Therefore, 1.7 Amperes is equal to 1.7×10^6 microamperes.

THE AMMETER:

Searl states that this is a device for measuring current. The name **ammeter** is a shortened form of the name ampere meter. **Figure CE 1-21** shows a diagram of an **ammeter**. It has a pointer which moves in front of a calibrated scale. In this figure, the scale is calibrated from **0 to 10 amperes**. The movement of the pointer is proportional to the amount of current flowing through the meter. Therefore, an accurate indication of the amount of current flowing in the circuit is obtained by reading the pointer against the scale. This meter is presently displaying a reading just over **6 amperes**.

Figure CE 1-22A: shows a circuit in which an unknown amount of current is flowing. Searl states that we can measure this current by inserting an ammeter into the circuit as shown in **Figure CE 1-22B**. **NOTICE** that the schematic symbol for the ammeter is a **circle** with the letter **A**. Before the **ammeter** can measure current, it must be placed in the circuit in such a way that the **current**; we wish to measure actually flows through the meter. Searl says that the **ammeter** is connected in **series** with the **circuit elements**.



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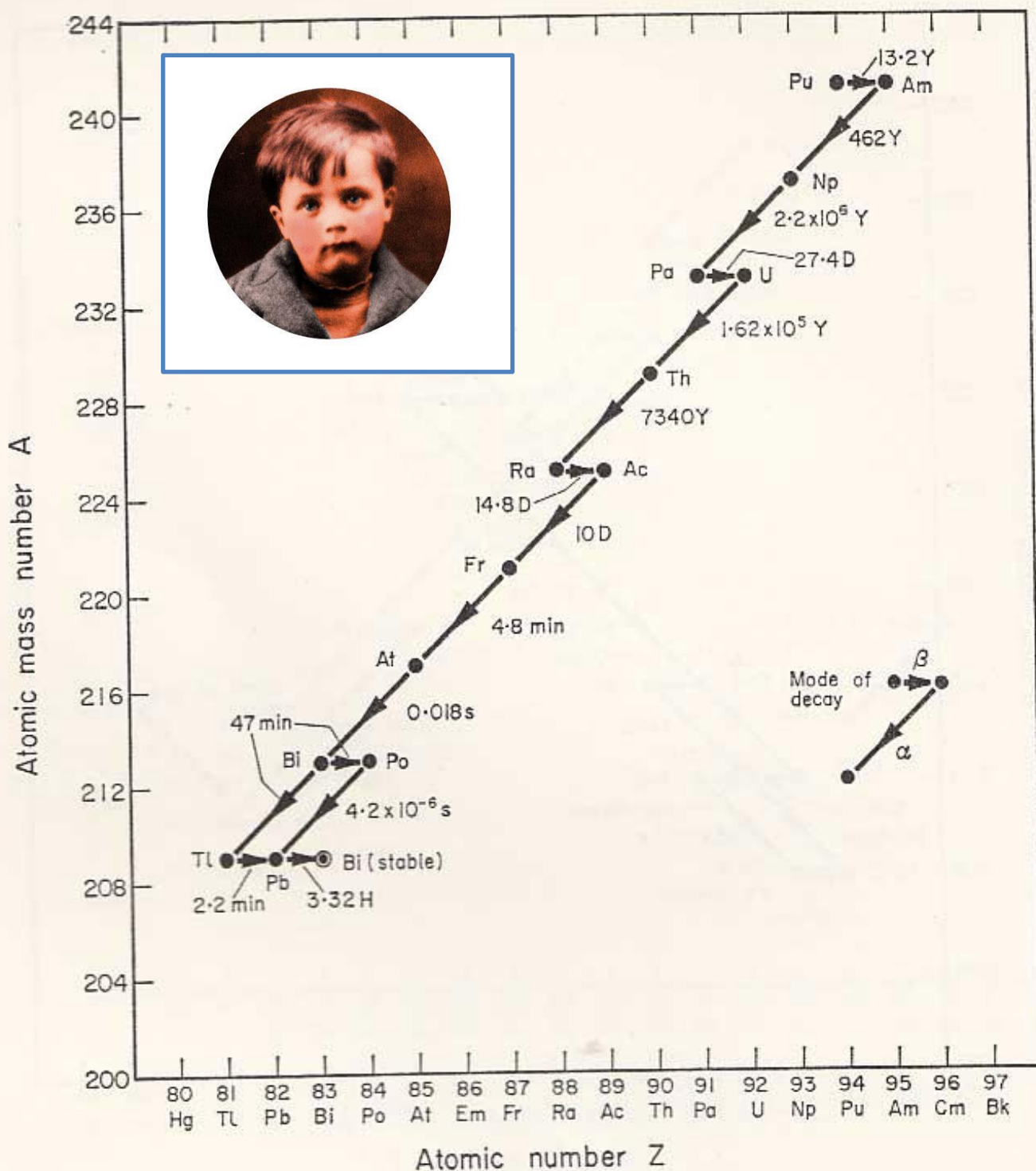


Figure ANP 4-8: The Neptunium series ($A = 4n+1$) what about that **Hail Flowerbower**; you never knew that I understand all these things, did you. You think that you know everything, but I am afraid that you don't. It's time that you were taken down from **cloud 9** and hopefully your head will hit a big boulder to knock some sense into that crap brain of yours.

I must say that I am sorry to waste my time on that idiot who claim to be professor of physics; yes in BS indeed he is.

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Wednesday: 4th February 2015; at **Searl Magnetics Corporation**, San Diego, California, USA. Meeting and demonstration of the Searl Effect Generator research program. The guest, who you see dressed in light blue top; remark that it had been a great day seeing and feeling that force. He will now do whatever he can to help to take some of the load off us. So we can devote more time to research.

Searl agree that talk is cheap, action is costly today. Searl will now return to normal education of his time **1946 – 1947**.

Searl says that incidentally, a circuit like the one shown in **Figure CE 1-22B** is called a **series circuit**. Searl states that a **series circuit** is one in which the **same current flows** through all the elements in one continuous loop. **Hail Flowerbower: NOTE** that the highest current that the ammeter in **Figure CE 1-21** can safely measure is **10 amperes**, is that correct my dearly loved **Almighty Flowerbower**. Searl says that this is called its full **scale reading**, did you know that my dear **Lord almighty Flowerbower**. Guess you don't. Searl accepts that many current meters are much more sensitive. Some have a full scale reading of 1 milliamperes. Others provide a full scale reading with only **50 microamperes** flowing through them.

Searl states that **ammeters; Flowerbower** are delicate instruments and can be destroyed if the **current** applied greatly exceeds the full scale reading of the meter. Searl say that for this reason, we must exercise certain precautions when using the **ammeter**. Is that correct **Sir Lord Flowerbower**? If you don't know; run and find a real electronic engineer who might be able to help you. Where are you now? I know you are in your skin, but where's your skin? On your body, where the body? On the Loo: getting YouTube new clip READY.

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Wednesday 4th February 2015: another shot of the guest learning about the **S.E.G** how it functions before going to see it in reality. Within a few hours from now Searl will be returning to the UK for a month, as he has to take a person to court to deal with a problem they have. Also: to reset his visa. So Searl will not be able to complete Volume 1 before he leave, sad to say, been held up too long due to meetings, operations, and eye problems. Nevertheless it is taking shape; a **1000 page** target is something for an old man handicapped to undertake.

Searl states that to protect yourself and the **ammeter**, there is a definite procedure which must be followed when using an **ammeter**. Is that correct **Sir Donnelly**? The first step is to insure that the **ammeter** you are using is heavy enough for the job. As mentioned above, if the current rating is exceeded, the meter may be damaged. The second step: which Searl adviser you to do are to remove power from the circuit to be tested. In battery powered circuits this can be done by removing the battery or by disconnecting one of the battery leads. Is that correct **Professor God almighty Stephen Donnelly** the purpose of this step is to protect yourself from electrical shock as you connect the **ammeter**? What do you say **hail Sir Donnelly** to that issue?

Searl says that the third step is to break up here, as there is such a massive mix up of pages due to people reading them and just piled them together without care where they were put. One problem I have found with people, they don't care about the work others do. So I will restart again but not include what is already here, and I hope when I get 250 pages done I shall be out of the problem. For me it's sad as this document should have run smooth and easy. The data written may be missing on here, if so that will delay this book. Page 78©

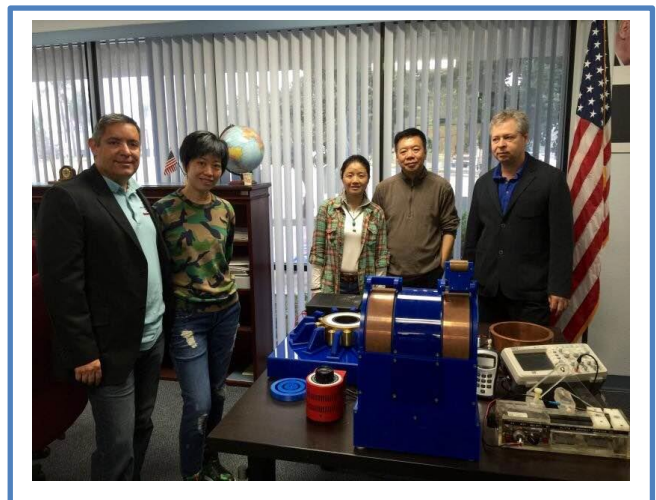


I, Professor John Roy Robert Searl, welcome you to this first part of his mathematics set of documents, which also carries updates:

Update 1. Searl technology with draw from the consortium on February 8th at 2200 hours G.M.T, which Searl accepted, and they have no more rights to his name or terms which he uses to raise funds. By their actions they have lost all their rights for a period of 10 years. No member thereof can return.

Update 2. Searl Global Technologies will now replace EX-STI; here are some of the divisions which they will have to set up to handle international traffic:

- 1 **Computer Studies Division:**
- 2 **Economics Division:**
- 3 **Finance Division:**
- 4 **Marketing Division:**
- 5 **Management Accounting Division:**
- 6 **Operational Research Division:**
- 7 **Organization Theory Division:**
- 8 **Statistics Division:**
- 9 **Planning Division:**
- 10 **Taxation – Accounting Division:**
- 11 **Ordering goods – wages Division.**



Such staffs have to be top skilled in their domain. Searl will now proceed with part 1. Part 2 will be released later. This presents to you what you will need to understand.

The above divisions are just a start to create this massive effort to clean the pollution issues up. All energy and transportation systems need to be re-designing for better economics and cleaner functions. The company under SEARL GLOBAL TECHNOLOGIES has a massive task to get set up to be able to meet the targets success. There are no other options but to find the right team which will make our targets a success. Clearer air: cleaner water; and better food via better energy plants. The S.E.G. research has started here in San Diego, California, U.S.A. now it is up to us to make it happen – talk is cheap – action cost money – but possible.

Searl is surprised at the interest now in the squares, since in 1946 I released my 100 by 100 squares. That Searl use square 4 matrixes as Searl starting base for the **S.E.G. DESIGN**. Here is the report of Searl findings 1946-1947.

V = start value of the square.

LV = line value

FV = frequency value

CV = Centre value

S1 = Shell 1

S2 = shell 2

C4 = four corners value

S- = energy value negative

S+ = energy value positive

Energy value relates stationary state

60	25	50
35	45	55
40	65	30

There are two modes to work a square: one I call **SPACE FRAME** the other the **TIME FRAME** which is shown above. There are only 3 mathematical systems used by nature. All odd numbers belong to **group one**. Where all even numbers: are divided equal in two design groups.

First even number is a **group 2** and the other half is a **group 3**: as witnessed in above sample of a group one; there is a single bar cross. **Group 2** has no cross at all. But **group 3** has a double bar cross, which makes it hard to work out. **Group ones** will pair with any even number to create pairs at higher energy levels. Every square of a value set has its own **DNA** structure by which all squares in that set can quickly be worked out.

For example a **square 4** takes me from **12** to **17 seconds** to work out, as that class is the main one used for design of the **Searl Effect Generator S.E.G.** I have not demonstrated a **group one** in public as its only task is to excite the **group 2** in its functions. The matrix of **square 4** belongs to the **group two** series of matrixes.

GROUPS:	PAIRING:	-	SEARL PAIRS:				
ONES	TWO		THREE	≡	ONES	TWO	THREE
3	4			≡	29		30
5			6	≡	31	32	
7	8			≡	33		34
9			10	≡	35	36	
11	12			≡	37		38
13			14	≡	39	40	
15	16			≡	41		42
17			18	≡	43	44	
19	20			≡	45		46
21			22	≡	47	48	
23	24			≡	49		50
25			26	≡	51	52	
27	28			≡	53		54



I'm here so beware!

Searl education – 1946-1947:

GROUPS: PAIRING: -		SEARL PAIRS:				
ONES	TWO	THREE	≡	ONES	TWO	THREE
55	56		≡	99	100	
57		58	≡	101		102
59	60		≡	103	104	
61		62	≡	105		106
63	64		≡	107	108	
65		66	≡	109		110
67	68		≡	111	112	
69		70	≡	113		114
71	72		≡	115	116	
73		74	≡	117		118
75	76		≡	119	120	
77		78	≡	121		122
79	80		≡	123	124	
81		82	≡	125		126
83	84		≡	127	128	
85		86	≡	129		130
87	88		≡	131	132	
89		90	≡	133		134
91	92		≡	135	136	
93		94	≡	137		138
95	96		≡	139	140	
97		98	≡	141		142

Searl knowledge 1946-1947:

The square as Searl terms it. Is really one face of a cube being the best face to create the **SEARL EFFECT GENERATOR (S.E.G.)** from: The squares are nothing more than a **Binary Code System**: The **pairing table** shows this clearly and Searl research the squares in **1946** and produced these results as shown in this document. Over the years Searl have released some of those findings in his books and newsletters. In this document you see the full results in one unit.

Over the years and more so from **2012**, expert's asked: how do the squares help to make the **S.E.G?** I reply, there is no **mathematical system** which can solve the quick route for a new project on energy, then the law of the squares. Since **1968** hundreds of so call experts have spent millions to try and copy my work, and still many think that they can make it quick and cheap. I tell them that there is no **magnetizer** yet available on the market at this date **Saturday 10th August 2014** by which you can make it. As it requires a running wave that creates a system like a **river** in principle.

Another problem in very recent years have turned up by an engineer from Boeing which I spent over two hours explaining with the **S.E.G.** mock up how it function: he wanted to know where the fuel goes in after telling him – also the center of the unit: well he could use either cow – horse-dog or his own shit; but I prefer leaving it empty to avoid the smell.

Engineers of today are no different to those of the time when the cycle was invented, you cannot ride a two wheel bike you need four wheels. Well it's a good job he never took their advice, as was clearly on display: of thousands of bikes, scooters, motor bikes in Amsterdam in **August 2014** which I have never seen such likes anywhere else in the world.

All the great inventions here today were impossible in the past, maybe due to lack of equipment and tools for the task, but the concepts were correct. Likewise in earlier **18th century** lot of the effects of the **S.E.G.** was known and being demonstrated in musical halls and universities and late **18th century** film studios were including some of these effects in movies of the day for excitement. They were unable to put it together as a motor; as the equipment and materials were not available at that time, it took another two hundred years for that to be possible to achieve.

First: a **rare earth** had to be discovered, which did not appear until **1880 – 1985** termed: **NEODYMIUM Nd 60**.

Second: a man name **Albert Einstein 1879 - 1955** had to arrive, who worked out the energy stored in an atom. But there was still another problem: a person who could put such a motor together; but that had to wait until the second of May 1932. Unfortunate it would be **August 1946** before this man could make a start on such a device. He had no knowledge what had already been achieved.

Been invented around the world, as he was obsessed in trying to solve what his school day dreams meant. Then on his second day at work as an apprentice to become an electrical engineer at British Rewinds in London on **the 10th July 1946** the second part of dream one became reality which proved to Searl that it was a work dream. A key part of the puzzle, a simple document for the stores of a drum of wire **2²** Searl ask the foreman what does that Mean? He replied that is **two squares** and draw an image of **4 squares**. Searl stated that is a structure; therefore it must have functions. The law of nature states that you cannot have a structure without a function(s). He replied it's just a **formula**. From that moment in time that game of **hopscotch** had commence a major problem that still exist today that there is something wrong with our education that needs to be corrected. I replied that those **cells** are **structures** as such, they must have a **value**. He replied that it was not the case. I was determined then to check this out. As that game of **hopscotch** would create me a lifetime of hell.

That night on returning to my digs at to **30 Crawley Road: Turnpike lane, London**. I started the task of solving this game of **hopscotch** to find out what was wrong. **Square 1** and **two**, appear to do nothing, later on Searl suddenly became aware that they were **DNA STRUCTURES**. And not real squares. So Searl try to see if **square 3** would do anything of worth, after some time bang on it did work; you could put random numbers in and get uniform numbers out. Clearly that was the starting point of the **real squares**. Thus my stone in **square 3** clearly mark the start of the **real squares**. As the **dream 1** was saying go to **square 4** for your problem. After some time bang on I hit it, so here somewhere was the error – or important information on the creating of a new class of power generator. One which would produce far more energy than that which was available in fact would last longer than those of Searl time.

Searl continued working out the squares up to **square 100**. Upon studying Searl results Searl discovered that the stone in **square 3** covered far more information that at first realized. In fact, it covered a lot of **physics** which Searl was never taught at school. Now Searl understood that in the **law** of the **squares** there were only **three kinds of functions**, which Searl **group** as **1, 2** and **3** as follows:

[illegible]

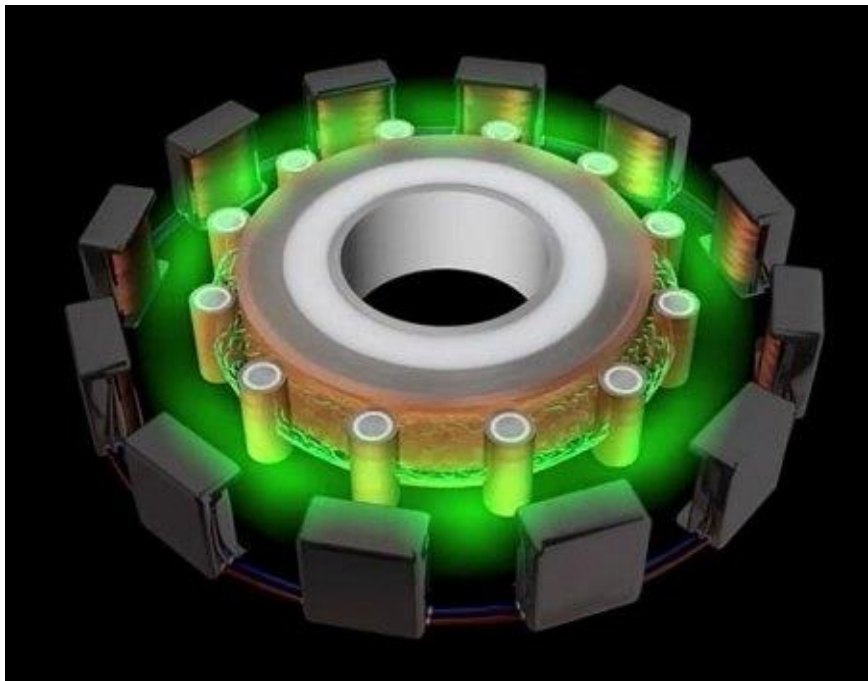
Group 3

Each group has its own **mathematical systems** and is clearly where **group 1** will bond to either **group 2** or **group 3**, but not to both systems in any combination. The sample given here already is a **group one** in the **time frame** option. You will notice that the horizontal bar steps in **10**, while the vertical bar steps in **20** to form that central cross. This mean that the horizontal bar adds it power of **10** to the vertical bar of **10** thus double the energy level?

Searl knowledge 1946-1947:

This 14 year old boy wondered if two units similar constructed devices – placed over each other would get its output to double. What did I hear? **Impossible** – that is interesting statement from experts. More so today; where such concepts are in practical use. So what is an **electrical engineer**? It is a person who has been taught how to use test equipment to solve electrical supply problems. Then what is the **difference** between electronic engineers? That is a person trained to use test equipment to solve problems in electrical components. Both work in solving problems in the **electrical domain** from different angles. Where do Searl stand in this field of power? Just a **trouble maker**, by stating they have their sums wrong due to their thinking – do not misunderstand me as what they do is to correct faults, as they do not design new energy systems which is where Searl fit in.

The **S.E.G.** is a complex function device. It is a **diode**; as **current** can only go in one direction which is outwards. It is a **linear motor** riding on a **magnetic wave**. In reality there are **three linear motors** riding on a **magnetic wave**. It represents **three maglevs** operating in the **same direction** but at **different speeds**. There is **no wear** or **tear** involved within its functions. Therefore it should run for **centuries** without **maintenance**. If so the answer to future energy system is right here with the **S.E.G** system.



Here on show is just one plate being the first one presenting its 12 roller sets, and place around it are the energy collecting coils. Again this illustration comes from Samuel Mason team. Note that these collecting coils represent where the second plate would be sitting. There are 4 different materials as the dream instructor informed me to do. Three of which must be elements and one must be a molecule that is material made from an arrangement of elements that are classed as insulators which scientists' state cannot pass current or magnetic lines of force – right or wrong?

Yes I accept that it looks like a very simple structure, which repeats itself two more times. But in reality your eyes are deceiving your brain. It is not simple it is far more complex than you can image. **But not impossible**; – how true – **in nature there is nothing impossible except that your brain makes it so**. I have never claim to be the **inventor**; just the inventor of the **concept**. As the **S.E.G**: involves many inventors over centuries to be created. Many of whom I have no idea of their names, or time period. I have always stated that I have only extended other **inventors** work. **In knocking me; you also knock them**. Do you consider that to be **intelligent** – well Searl don't, he thinks you are idiots, based upon facts today's. Page 84©

Searl knowledge 1946-1947:

Why did they fail to make the **S.E.G.**? They never had the **machines – test equipment – tools – and materials** that became available to me, in my early days; such as **metal-matrix composites – sintered materials – heat treatment – engineering ceramics – soldering and brazing – shape memory – x-ray analysis** of metallic and lasers which have been developed within my lifetime all **impossible** in their time; and yet became **possible** in my time.

Dream one makes it clear that Searl only need four ingredients throughout the whole structure. The **three elements** needed have **92 choices** to select from which are found on planet Earth, so the **S.E.G.** is far more **possible** than **impossible**. Choice of **plastics** is many with every increasing choice each year. Today to tell the world that the **S.E.G.** is **impossible** stands to make them appear as **idiots** – which of course they are. Unfortunately the drawings of the past have vanished but may be seen in my books of the past gone period of time.

This constant statement; from idiots; if Searl did it in **1946** why can't he do it now. That answer is elemental – it is no longer **1946** but **2015** a complete different world. There is no problem with the **technology**; it is just you and **money – talk is cheap action is expensive**. All you have to do is to put the money in your mouth, the millions that is required today and it shall be done. It shows the lack of **education**, And I fully agree with the **UK prime minister** statement he made on television this year; that 50% of school children cannot read or write; which Searl can appreciate from his life period; but surprise that he just said only **50%**; Searl expected he would say **75%**, as more nearer to the **truth**.

What else did Searl have to work with that those of early **18th century** never had? By **1968** Searl had a massive robot to use in his **education training** with the **Open University** courses such as **ROBOT MANIPULATION, SENSING AND CONTROL PT615 2 – plus ROBOTIC SYSTEMS PMT606/PT615 3**; which represents only a small part of the whole of Searl training. Such technology or products were not available to those scientists working on magnetic research. **Inventors** had to arrive to develop this **technology**; that allow Searl to create that device termed the **S.E.G.** It is those **inventors** to whom Searl give created to, for without them there would be no tomorrows. And there would be no hope for the **S.E.G.**

Just the facts of the **S.E.G.** is massive in context, knowledge is vital as it involves so many different sciences; which are special train personal that work with Searl that made the **impossible** to become **reality**. Unfortunately Searl still have to wait another month for all my **equipment** and **data** to arrive from the UK. Then the facts can be place within this document. As Searl need to see that everything within this document is absolutely correct for the time period being studied here.

Bear in mind that Searl have the rights to change any material if by so doing it improves the product or reduces labour or cost. Today prices are changing this will no doubt change some details in the future. It does not mean that what it replace was no good; it was then.

Searl knowledge 1945-1947:

So far Searl have presented **basic facts** relating to the problem of the **S.E.G**; now we need to look at what you really need to know. First thing forget making it in your bedroom; as it is not possible to do. The problem with the **S.E.G** that its **mathematics** is more on **physics** as well as **natural science** and **engineering**. Searl looks at this as a **truism** too often forgotten in **teaching** that **knowledge** is acquired by a student only when **his/her interest** is **aroused** and **maintained**. How true; the **dream one** aroused Searl interest, but only after **10th of July 1946**.

Searl had to discover; not only how a class of problems in **mathematics** is solved but, within limits, why a particular method works and in **physics**, why a **technique** is especial well adapted for some particular **measurement**. This is just a thin line which you need to understand to design a new power unit with special operations, such as the **S.E.G**.

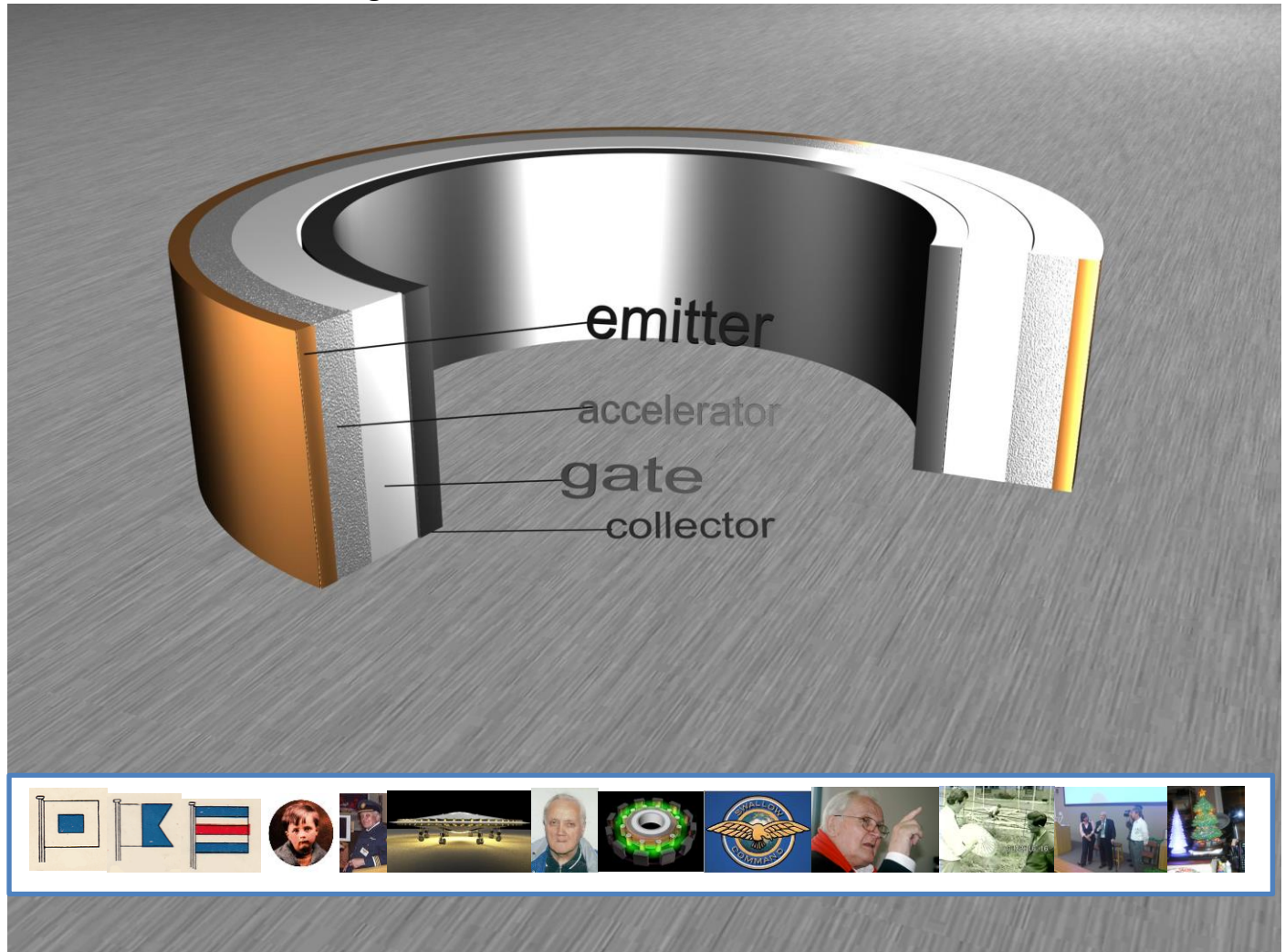
Throughout this document; special emphasis will be laid on **illustrations** which you may be expected to appeal to the **experience** of the **student** in matters of daily life, so that **his/her** studies of the **S.E.G** are related to what **he/she sees, feels** and **knows** of the world around **him/her**. Treated in this way, **science** ceases to be an **arid abstraction** and becomes **vivid** and **real** to the **inquiring mind**.

This document M1: which have been written by Searl have therefore been written, not only to ensure the passing of **examination** for post with the **Searl consortium**, but as a preparation for the **exciting world** of the **Searl Technology** which lies ahead of the reader. Searl hopes that the results in these documents will prove **adequate** for all **examinations** at this level and yet broad enough to **satisfy** the **intellectual needs** of **students**. Searl accepts that there are occasions where **Algebra, Trigonometry, Calculus** and **Geometry** must be understood. Searl accepts that one can state: that to understand all of Searl concepts you need advanced level **pure mathematics**.

Searl accepts that the **S.E.G** and more so the **I.G.V** has a wide a field of study. Many of you may feel that an early start should be made with the **Calculus**, then **Algebra** and **Trigonometry**. But Searl have to admit that he used **Trigonometry** for the **S.E.G** design work, and it worked ok. As the writer of this document do not intend it to be yet another text-book of **mathematics**. Searl do recognize that there are thousands of people in every walk of life who look back on their **mathematics** lessons with regret, either because they never really understood the point of them all, or because the pleasure of them ceased when they left school, or because of what they once learned, now forgotten, would be useful to them if only it could be recalled. Unfortunate in Searl case he never had a chance to learn anything at **infant school** or **secondary school** as he was **clinical deaf** and no one tried to find out why he could not learn. But then it never matter as **Thorndon** had no engineering operations, as it was just farming labour of that time which he helped out on. Searl life; as a child was not a happy one; as other children were, for religious reasons.

Searl knowledge 1946-1947:

To give you a break from all this text; Searl present you with an **illustration** of what a **plate** looks like; which is our target to do here in the USA.



So you are looking at a massive size **transistor** in **concept**, before **transistors** became known to the public at large. Searl knows they all claim to know about **transistors** – Searl finds that hard to believe as their lack of **knowledge** looking at my **demonstrations** shows.

If Searl had been shown such **demonstration** Searl would had immediately recognize the **transistor**. Just to remind you that a **collector**: **collects energy** from around itself. The **control gate** simply **controls** the **rate** of **electron movement** through the system, the **accelerator speeds up** the **flow** of **electrons** by **magnetic interference**. The **emitter releases** those **electrons** into the **circuit** as an **electrical supply**. Thus the circuit is complete, nothing is **created** or **destroyed**. **No heat unit** is required; therefore there is no requirement for **fuel** to **burn**. The device runs cold.

Strange such a **device** is created from a set of **abstract numbers**, with amazing results. Searl agree that there are many things here on **planet Earth** which does not make sense upon what we are taught – which is nothing more than **assumption** – **time** might **solve** them.

Searl knowledge 1946-1947:

Here in the USA we are undertaking **scientific research** in **magnetism** which is the key to the **SEARL EFFECT GENERATOR (S.E.G.)** as such it may require the use of **powers of ten** and **scientific notation**; which is common in **scientific documents**. Therefore Searl like give you a few words about powers of ten and scientific notation may be helpful at this stage point. The number **6,250,000,000,000,000,000** can be expressed as **$6 \times 25 \times 10^{18}$** this number is read '**six point two five times ten to the eighteenth power**'. The expression '**ten to the eighteenth power**' means that the decimal place in **6.25** should be moved **18 places** to the right in order to convert to the proper number. The theory is that it is easier to write and remember **6.25×10^{18}** then it is to write and remember **6.250,000,000,000,000,000**.

This shorthand method of expressing numbers is known as **powers of ten** or **scientific notation**. It is often used in **electronics** to express very large and very small numbers. Very small numbers are expressed by using **negative powers** of ten. For example **3.2×10^{-8}** is **scientific notation** for number **0.00000032**. Here, 'ten to the minus eighth power' means 'move the decimal place in **3.2** eight places to the left.' To be sure you have the idea, let's look at some examples of **both positive and negative powers of 10**:

$7.9 \times 10^4 = 79,000$

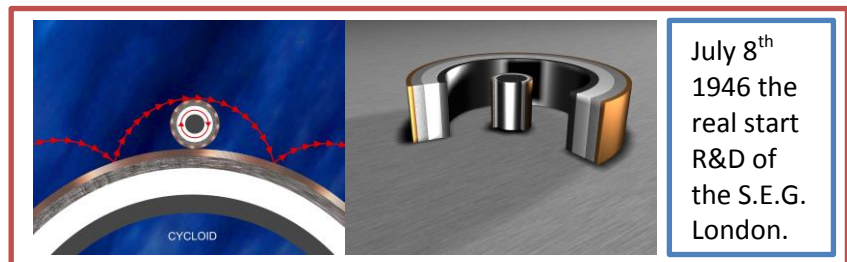
$9.1 \times 10^8 = 910,000,000$

$1.0 \times 10^{12} = 1,000,000,000,000$

$7.9 \times 10^{-4} = 0.00079$

$9.1 \times 10^{-8} = 0.000\ 000\ 091$

$1.0 \times 10^{-12} = 0.000\ 000\ 000\ 001$



In R&D we speak different to you, like we raise **5** to the second power by multiplying **5** times itself. That is **5** to the **second power** is **$5 \times 5 = 25$** .

Like **5** to the **third power** = **$5 \times 5 \times 5 = 125$**

Like **$5 \times 5 \times 5 \times 5 = 625$** which I have raised to the **forth power**.

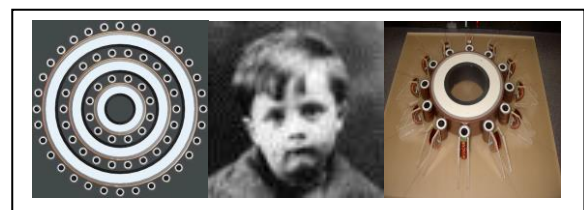
2 to the **second power** equal **$2 \times 2 = 4$**

2 to the **third power** equal **$2 \times 2 \times 2 = 8$**

2 to the **fourth power** equal **$2 \times 2 \times 2 \times 2 = 16$**

2 to the **fifth power** equal **$2 \times 2 \times 2 \times 2 \times 2 = 32$**

2 to the **sixth power** = **$2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$**



The number which is raised to a **power** is called the **base**. If **5** are raised to the **third power**, **5** are considered the **base**.

The **power** to which the number is raised is called the **exponent**.

If **2** are raised to the **sixth power**, then **2** is the **base** while **6** is the **exponent**.

2^6 the **exponent** is written as a small number at the top right of the **base**.

3^4 , **3** is the **base**, while **4** is the **exponent**.

The number **3^4** is read ' **3^4** raised to **fourth power** it is equal to: **$3 \times 3 \times 3 \times 3 = 81$** .

This is a boy of 14 years, 2 months plus 6 days old, with no **formal education**. Though his Forman: failed to explain **2^2** to Searl; which would have saved Searl time wasted to work it out for himself.

Searl knowledge 1946-1947:

While am Searl presenting **scientific notation** here, in his work in **electronics**, it is common to deal with vary large and very small numbers. An example of a very large number is the speed at which **electricity travels**. In Searl time it was considered that it travels at the speed of light which is approximately **1,000,000,000 feet per second** or about **300,000,000 meters per second** as for a very small numbers, consider the **size** and **weight** of an **electron**. For your information is the subject we are dealing with; here in the **USA**. It is believed that the **electron** has a **diameter** of approximately **0.000 000 000 0022 inch** and a **weight** of about **0.000 000 000 000 000 000 000 000 0009 gram**. Sometimes, we perform **arithmetic** with numbers such as these. To simplify such **arithmetic**, a shorthand method has been developed to express numbers. This shorthand method is called **scientific notation**.

Remember that **scientific notation** uses **powers of ten**. As follows:

$$10^2 = 10 \times 10 = 100$$

$$10^3 = 10 \times 10 \times 10 = 1000$$

$$10^4 = 10 \times 10 \times 10 \times 10 = 10,000$$

$$10^5 = 10 \times 10 \times 10 \times 10 \times 10 = 100,000$$

$$10^6 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 1,000,000$$

$$10^7 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10,000,000$$

$$10^8 = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 100,000,000$$

Searl can carry on and on, but he feels certain that this is enough data to meet his needs at this stage of the work.

$$10^{21} = 1,000,000,000,000,000,000,000$$

$10^{35} = 100,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000$ in case you think that above is all that I know.



Study each of the groups below. Which group contains an error?

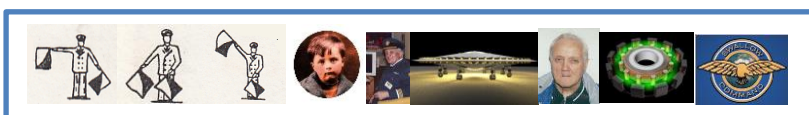
Group A	Group B	Group C
$10^6 = 1,000,000$	$1000 = 2^3$	$10^7 = 0,000,000$
$10^2 = 100$	$10,000 = 10^4$	$10^9 = 1,000,000,000$
$10^9 = 1,000,000,000$	$100 = 10^2$	$10^{11} = 10,000,000,000$

Note: $10^1 = 10$ A special case $10^0 = 1$ $x^1 = x$ $x^0 = 1$

Note: 10^{12} is really 10^{+12} but for ease we do not add the + sign where it is a **positive value**.

Positive exponents represent numbers larger than **1**. Thus, number such as 10^2 , 10^7 , 10^{15} are greater than **1** and require **positive exponents**. Numbers smaller than 1; are indicated by **negative exponents**. Thus, numbers like **0.01**, **0.0001**, and **0.00001** are expressed as **negative powers** of **10** because these numbers are less than **1**.

Yes, it is simple if you using it every day; but only once in 50 years it's not so easy.



Searl knowledge 1946-1947:

Let us look at some **negative powers of ten**.

$$10^{-1} = 0.1$$

$$10^{-2} = 0.01$$

$$10^{-3} = 0.001$$

$$10^{-4} = 0.0001$$

$$10^{-5} = 0.00001$$

$$10^{-6} = 0.000001$$

$$10^{-7} = 0.0000001$$

$$10^{-8} = 0.00000001$$

$$10^8 = 100,000,000.$$

$$10^7 = 10,000,000.$$

$$10^6 = 1,000,000.$$

$$10^5 = 100,000.$$

$$10^4 = 10,000.$$

$$10^3 = 1,000.$$

$$10^2 = 100.$$

$$10^1 = 10.$$

$$10^0 = 1.$$

$$10^{-1} = 0.1$$

$$10^{-2} = 0.01$$

$$10^{-3} = 0.001$$

$$10^{-4} = 0.000,1$$

$$10^{-5} = 0.000,01$$

$$10^{-6} = 0.000,001$$

$$10^{-7} = 0.000,000,1$$

$$10^{-8} = 0.000,000,01$$



The Searl Effect Generator has taken over two centuries to be created. The two of us here in the USA are checking the results which the team are undertaking. Unfortunate we have to use what material we have around the Lab to make it from, which creates head pain to make products do what they were never intended to do. That is the role of the scientific team make things do what you want; not what they were plan to do. Must agree Jason is sure a great worker, he never gives up and in the end success. We are still moving forwards regardless.

By **combining** both stages in **descending order** this is what it will appear like; which is more like **magnetic lines of force** was on the **S.E.G.**

So far I have used powers of ten to express only those numbers which are exact multiples of ten such as **100, 1000, 10,000** etc. Actually any numbers can be expressed in power of ten notations. If **1,000,000** can be expressed by **10^6** , then **2,000,000** can be represented by **2×10^6** . That is, we express the quantity as a number multiplied by the appropriate power of ten. Another example: **$2,500,000 = 2.5 \times 10^6$** . Also: **$3,000,000 = 3 \times 10^6$** .

What good are the scientific notations in the **S.E.G.** or the **I-G-V** construction? Naturally, it's far more important in the **I-G-V** than the **S.E.G.** due to its massive structure concept. The number of flux lines of force in use is one example; also the number of atoms involved is far better expressed in **scientific notation**.



Searl knowledge 1946-1947:

Due to the fact that over the years many people have asked me to help them with their **mathematics**, as they failed when at school to learn. These documents are planning to help all to understand **science** which includes the **S.E.G.** and the **I-G-V** which is not part of this document subject. We can write **5,000** as **5×10^3** plus the ones which follows:

$$\begin{aligned} 200 &= 2 \times 10^2 \\ 1,500 &= 15 \times 10^2 \\ 22,000 &= 22 \times 10^3 \\ 120,000 &= 12 \times 10^4 \\ 1,700,000 &= 17 \times 10^5 \\ 9,000,000 &= 9 \times 10^6 \end{aligned}$$



We can convert in the opposite direction. Thus:

$$\begin{aligned} 2 \times 10^5 &= 2 \times 100,000 \text{ or } 200,000 \\ 2.2 \times 10^3 &= 2.2 \times 1000 = 2,200 \\ 66 \times 10^4 &= 660,000 \end{aligned}$$

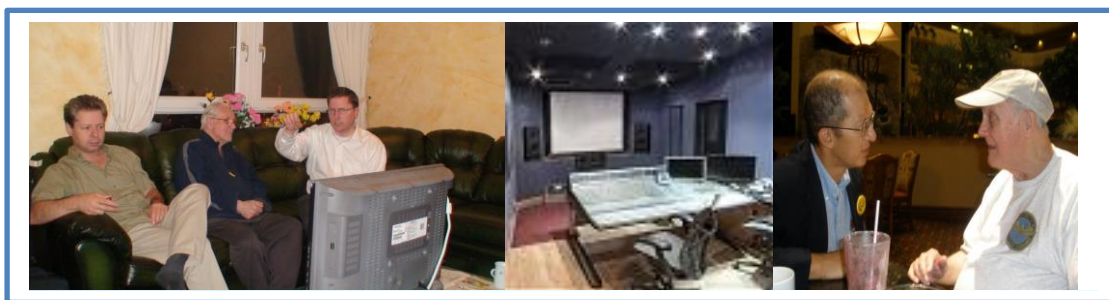


Unfortunate there are a number of ways to write numbers.

25,000 can be written as **25×10^3** because **25×1000** equals **25,000**. However, it can also be written as **2.5×10^4** because **$2.5 \times 10,000$** equals **25,000**. It can even be written as **250×10^2** since **$250 \times 100 = 25,000$** . In the same way: **4.7×10^4** , **47×10^3** , and **470×10^2** .

Numbers smaller than one: are expressed as **negative powers** of **ten** in much the same way. Thus, **.0039** can be expressed as **3.9×10^{-3}** , **39×10^{-4}** , or **$.39 \times 10^{-2}$** . Also, **8.8×10^{-5}** , **68×10^{-6}** and **$.68 \times 10^{-4}$** are three different ways of expressing the number **.000068**.

$$\begin{aligned} 6.25 &\times 10^{18} \\ 3.7 &\times 10^6 \\ 4.0 &\times 10^2 \\ 6.8 &\times 10^{-4} \\ 3.9 &\times 10^{-6} \\ 2.2 &\times 10^{-12} \end{aligned}$$



Searl says that writing a number in **scientific notation** is quite simple. First, the decimal point is always placed after the first digit on the left which is not a zero. Therefore, the final number will appear in this form; **6.25**, **7.3**, **9.65**, **.8.31**, **2.0** and so forth. It must never appear in a form such as: **.625**, **73**, **96.5**, **.831** or **20**.

This document is design to help those who wish to understand **mathematics** so they can understand Searl documents which may be released in the future.

Searl knowledge 1946-1947:

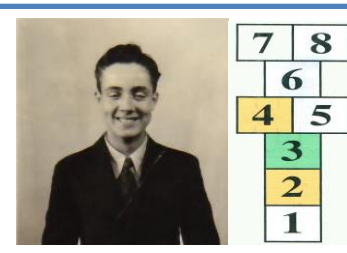
The **magnitude** of the **exponent** is determined by the number of – places the decimal point is moved. For example, **39,000.0** are expressed as **3.9×10^4** because the decimal point must be moved **4** places in order to have only one digit to the left of it. Using this rule, **6,700,000,000** are expressed as **6.7×10^9** .

Another rule, involves the sign of the exponent. If the original number is greater than **1**, the **exponent** must be **positive**. If the number is less than **1**, the **exponent** must be **negative**. Thus, **67,000** require a positive exponent but **0.00327** requires a negative exponent.

The number **0.00327** is expressed as **3.27×10^{-3}** . Here the decimal point is moved **3** places in order to have one digit which is not zero to the left of the decimal. Likewise **0.00027** is expressed as **2.7×10^{-4}** .

Look at the **groups** of numbers below. Which of the following **groups** contains a number that is not **expressed properly** in **scientific notation**? **Group....**

Group A	Group B	Group C
6.24×10^{-18}	1.11×10^{11}	6.9×10^{10}
3.75×10^{-9}	-3.1×10^2	3.4×10^7
4.20×10^1	-3.1×10^{-2}	39.5×10^2
7.93×10^0	2.00×10^2	6.0×10^4



The number **39.5×10^2** is not written in **scientific notation** because there are two digits on the left side of the decimal point. The minus signs in **group B** may have confused you. Although, it has not been mentioned, **negative numbers** can also be expressed in **scientific notation**. Thus, a number like **-6,200,000** becomes **-6.2×10^6** . All the rules stated by Searl previously hold true, except now a **minus sign** is placed before the number.

Small **negative numbers** are handled in the same way. Thus **-0.0092** becomes **-9.2×10^{-3}** . The **minus sign** before the number indicates that this is a **negative number**. The **minus sign** before the **exponent** indicates that this number is **less** than **1**.

Listed below are numbers which are converted to **scientific notation**. Which one of these **3** groups contains an **error**?

Group A	Group B	Group C
$2.200 = 2.2 \times 10^3$	$119,000 = 1.19 \times 10^5$	$119 = 1.19 \times 10^2$
$32,000 = 3.2 \times 10^4$	$1,633,000 = 1.633 \times 10^4$	$93 = 9.3 \times 10^0$
$963,000 = 9.63 \times 10^5$	$937,000 = 9.37 \times 10^4$	$7.7 = 7.7 \times 10^0$
$600 = 6.6 \times 10^2$	$6,800 = 6.8 \times 10^3$	$131.2 = 1.312 \times 10^2$

As you may have notice that there are **3** ways to write **scientific notation**. Likewise within this universe all material can exist in one of the **3** forms – **gas – liquid – solid**.

Searl knowledge 1946-1947:

In the last block of numbers, the error was in **Group B**. Number **937,000** converts to **9.37×10^5** and not to **9.37×10^4** . Which of the groups below contains an **error**:

Group A	Group B	Group C
$0.00037 = 3.7 \times 10^{-4}$	$0.44 = 4.4 \times 10^{-1}$	$.37 = 3.7 \times 10^{-1}$
$0.312 = 3.12 \times 10^{-1}$	$0.0002 = 2.0 \times 10^{-4}$	$.0098 = 9.8 \times 10^{-3}$
$0.068 = 6.8 \times 10^{-2}$	$0.0798 = 7.98 \times 10^{-2}$	$.00001 = 1.0 \times 10^{-5}$
$0.0092 = 9.2 \times 10^3$	$0.644 = 6.44 \times 10^{-1}$	$0.0075 = 7.5 \times 10^{-3}$

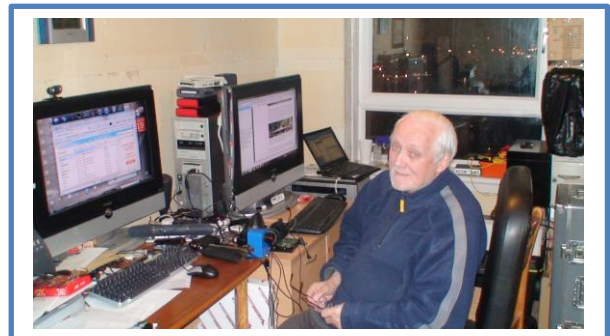
Have you found the **error**? When writing large number of pages of **mathematics** there may be occasion when a **typing error** occurs without you notice it; this training is to help you to spot **errors** on proof reading the page. Yes it is in **Group A** the final number **4** requires a **negative exponent**. Which of the groups below contains an **error**?

Group A	Group B	Group C
$3,700,000 = 3.7 \times 10^6$	$9440 = 9.44 \times 10^3$	$20 = 2.0 \times 10^1$
$-5.500 = -5.5 \times 10^3$	$-110 = -1.1 \times 10^2$	$0.02 = 2.0 \times 10^{-2}$
$0.058 = 5.8 \times 10^{-2}$	$0.0062 = 6.2 \times 10^{-4}$	$-200,000 = -2.0 \times 10^5$
$-0.0034 = -3.4 \times 10^{-3}$	$-0.0123 = -1.23 \times 10^{-2}$	$-0.000200 = 2.0 \times 10^{-4}$

Have you spotted any **errors**? Yes the **error** is in **Group B**. **0.0062** is equal to **6.2×10^{-3}** .

Can you match the following numbers?

1	16	a	1.6×10^{-3}
2	.0016	b	1.6×10^4
3	160,000	c	1.6×10^0
4	1.6	d	1.6×10^1
5	.016	e	1.6×10^{-2}
6	16,000	f	1.6×10^{-5}
7	1600,000	g	1.6×10^{-4}
8	.00016	h	1.6×10^5



How did you manage? 1d, 2a, 3f, 4c, 5e, 6b, 7h, 8g.

Now the timer has come to see how **scientific notation** helps in the work which Searl do. Another concept that goes hand in hand with **powers of ten** which is involved in both **S.E.G.** and **I-G-V** is **metric prefixes**. These are **prefixes** such as **mega** and **kilo** which when placed before a word change the meaning of the word. For example, the prefix **kilo** means **thousand**. When **kilo** and **meter** are combined the word **kilometer** is formed. This word means **1000 meters**. In the same way, the word **kilogram** means **1000 grams**.

Since **kilo** means **1,000** Searl can think of it as multiplying any quantity **times 1000** or **10^3** . Another term which Searl shall need to use that has a popular **metric prefix** is **mega**. **Mega** means **million**. Thus a **megaton** is one million tons or **10^6 tons**. In the same way one **million volts** is referred to as a **mega volt**.

Searl knowledge 1946-1947:

One thousand watts can be called a **kilowatt**. Also **one million watts** can be called a **megawatt**. A **kilowatt** is equal to 10^3 **watts** while a **megawatt** is equal to 10^6 . Searl states that it is convenient to convert from one prefix to another. For example, since a **megaton** is 10^6 **tons** and a **kiloton** is 10^3 **tons**, a **megaton** equals **1000 kilotons**. And, since a **megaton** is **one thousand** times greater than a **kiloton**, the **kiloton** is equal to **.001 megaton**. Searl says; now, consider the quantity **100,000 tons**. This is equal to **100 kilotons** or **0.1 megatons**.

In my work **kilo** will be abbreviated **k**. Thus, **100 kilowatts** may be expressed as **100 K watt**. **Mega** is abbreviated **M**. Therefore **10 megawatts** may be expressed as **10M watts**. The quantity **5 k volts** are **5 kilovolts** or **5000 volts**. Also, **5M volts** are **5 megavolts** or **5,000,000 volts**. Searl informs you that there are also prefixes which we shall have to use which have values less than one. The most used word is:

Milli: which means **thousandth (.001)** or 10^{-3} and
Micro which means **millionth (.000001)** or 10^{-6}



One thousandth of an **ampere** is called a **milliampere**. Also, **one thousandth** of a **volt** is called a **millivolt**. If a **second** is divided into **one million** equal parts each part is called a **microsecond**. Also, the **millionth** part of a **volt** is called a **microvolt**. One volt is equal to **1000 millivolts** or **1,000,000 microvolts**. Or, **1 volt** equals 10^3 **millivolts** and 10^6 **microvolts**. Expressed another way, **1 millivolt** equals **.001 volt** while **1 microvolt** equals **.000001 volt**. Thus, **1 millivolt** equals 10^{-3} which **1 microvolt** equals 10^{-6} **volt**.

Powers of ten allow me to express a quantity using whichever **metric prefix** Searl prefer. For example, Searl can express **50 millivolt** as **50×10^{-3} volts** simply by replacing the **prefix milli** with its equivalent **power of ten**. In the same way **50 microvolts** is equal to **50×10^6 volts**. When writing abbreviation for the **prefix milli** the letter small **m** is used. A small **m** is used to distinguish it from **mega** which used a capital **M**. obviously, the abbreviation for **micro** cannot also be **m**. To represent **micro** the Greek letter μ (pronounced mu) is used. Thus, **10 millivolts** is abbreviated **10 m volts** while **10 microvolts** is abbreviated **10 μ volts**. Remember, **m** means 10^{-3} while **μ** means 10^{-6} .

Remember that Searl is trying to help those who have no **mathematical base** by which they can follow Searl books; as they wish to try to **understand** this **technology**. They need this **knowledge**. This means Searl have to try and make it easy to follow – that is a big order, based upon what Searl have observed over his lifetime. Today's adults are already fixed in what the governments want you to know, and this **technology** is not one of those subjects. That day will come but may not be in my lifetime. But conditions are expected to get very bad over the years ahead for **energy**, as **population increases: power demand** will grow.

Searl knowledge 1946-1947:



Match the following:

1	M watt	a	10^{-3} watts
2	k watt	b	10^{-6} watts
3	m watt	c	500×10^{-3} watts
4	μ watt	d	10^6 watts
5	.5 watt	e	.5 k watts
6	500 watts	f	10^3 watts
7	500,000 watts	g	.5 M watts
8	.00005 watts	h	.05 k watts
9	50 watts	i	5 m watts
10	.005 watts	j	50 μ watts



Were you able to match them? **1d, 2f, 3a, 4b, 5c, 6e, 7g, 8j, 9h, 10i**. Additional aspects of **powers of ten, scientific notation, and metric prefixes** will be discussed later. I feel that it would be good to test your learning power upon what I have covered here.

EXAMINATION – CURRENT.

The following multiple choice examination is designed to test your understanding of the material presented in this study. Place a check beside the multiple choice answer (**A, B, C, or D**) that you feel is most correct. When you have completed the examination, compare your answers with the correct ones which will appear later in the next section of this document.

Q1 A positive ion is produced when an atom:

- A** loses an electron
- B** Gains an electron
- C** Loses a proton
- D** Gains a proton

Q2 Which of the following statements is true?

- A** The electron has a positive charge:
The proton has a negative charge;
And the neutron has no charge.
- B** The electron has a negative charge:
The proton has a positive charge:
The neutron has no charge.
- C** The electron has a negative charge:
The proton has no charge:
And the neutron has a positive charge.



It takes equipment to make the **S.E.G.** much more then you have in your home; and that is a fact.

There is not enough space for block D; therefore will continue on next page.

Searl knowledge 1946-1947:

- Q3 Which of the following statements is true?
- A. An electron attracts another electron:
 - B. An electron attracts a negative ion:
 - C. A proton attracts a negative ion:
 - D. An electron repels another electron.



- Q4 There are two objects which have a deficiency of electrons. The two objects are:
- A negatively charged and will repel each other.
 - B positive charged and will repel each other.
 - C negatively charged and will attract each other.
 - D positively charged and will attract each other.

I have arrived back in the USA for one purpose only; to get the S.E.G. to the market place

- Q5 An atom has a neutral charge when it has the same number of:
- A electrons as neutrons.
 - B electrons as protons.
 - C protons as neutrons.
 - D. Electrons as ions.



- Q6 Current is defined as a flow of:
- A Protons from a negative charge to a positive charge
 - B protons from a positive charge to a negative charge
 - C electrons from a negative charge to a positive charge
 - D electrons from a positive charge to a negative charge

- Q7 A substance which has few free electrons is called:
- A an insulator
 - B a conductor
 - C an element

- Q8 The unit of electrical charge is the:
- A volt
 - B ampere
 - C valence
 - D coulomb

- Q9 The unit of current is the:
- A Volt
 - B ampere
 - C Valence
 - D coulomb



As stated it takes lots of costly equipment by which to make the S.E.G. This is our lab in the USA; in sunny California. Here musical sounds of aircraft taking off.

searl knowledge 1946-1947:

Q10 The ampere is equal to:

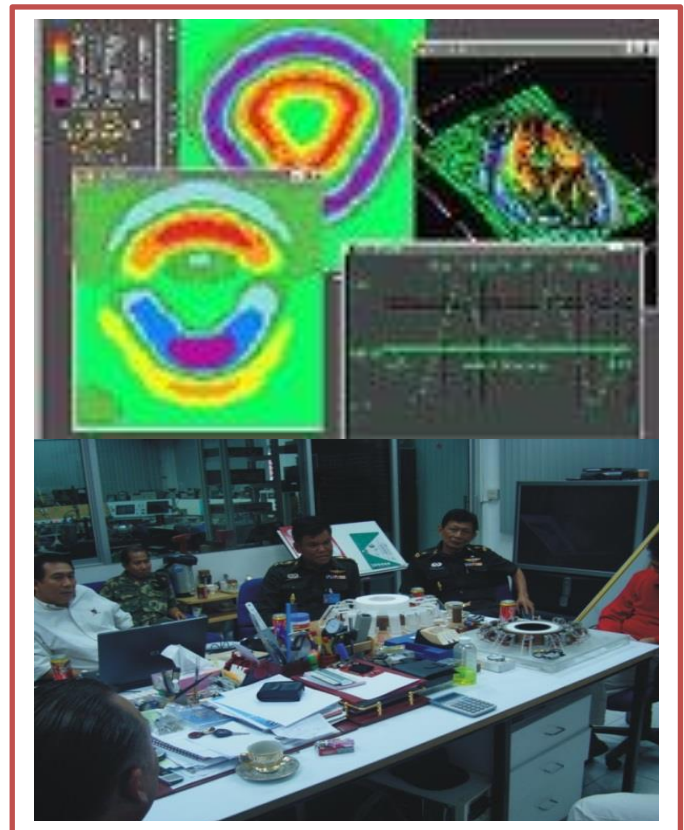
- A one volt per second
- B one coulomb
- C one thousand microamperes
- D One coulomb per second

Q11 One milliampere is equal to:

- A 0.001 amperes
- B 1000 amperes
- C 0.000 001amperes
- D 1 000 000 amperes

Q12 One ampere is equal to:

- A 1000 microamperes
- B 0.001 microamperes
- C 0.00 001 microamperes
- D 1,000,000 microamperes



I will keep two more questions for another day as it needs some drawings to study before you make a choice from the options. There are many tables needed to speed up the research and development work; such as measurements as metric – imperial conversion tables; as in this case millimetres to inches, As shown below.

mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
.01	.00039	.18	.00709	.35	.01378	.52	.02047	.69	.02717
.02	.00079	.19	.00748	.36	.01417	.53	.02087	.70	.02756
.03	.00118	.20	.00787	.37	.01457	.54	.02126	.71	.02795
.04	.00157	.21	.00827	.38	.01496	.55	.02165	.72	.02835
.05	.00197	.22	.00866	.39	.01535	.56	.02205	.73	.02874
.06	.00236	.23	.00906	.40	.01575	.57	.02244	.74	.02913
.07	.00276	.24	.00945	.41	.01614	.58	.02283	.75	.02953
.08	.00315	.25	.00984	.42	.01654	.59	.02323	.76	.02992
.09	.00354	.26	.01024	.43	.01693	.60	.02362	.77	.03032
.10	.00394	.27	.01063	.44	.01732	.61	.02402	.78	.03071
.11	.00433	.28	.01102	.45	.01772	.62	.02441	.79	.03110
.12	.00472	.29	.01142	.46	.01811	.63	.02480	.80	.03150
.13	.00512	.30	.01181	.47	.01850	.64	.02520	.81	.03189
.14	.00551	.31	.01220	.48	.01890	.65	.02559	.82	.03228
.15	.00591	.32	.01299	.49	.01929	.66	.02598	.83	.03268
.16	.00630	.33	.01299	.50	.01969	.67	.02638	.84	.03307
.17	.00699	.34	.01339	.51	.02008	.68	.02677	.85	.03346

Searl knowledge 1946-1947:

mm	inches	mm	inches	mm	inches	mm	inches		
.86	.03386	1.27	.05000	1.68	.06614	2.09	.08228	2.50	.09843
.87	.03425	1.28	.05039	1.69	.06654	2.10	.08268	2.51	.09882
.88	.03465	1.29	.05079	1.70	.06693	2.11	.08307	2.52	.09921
.89	.03504	1.30	.05118	1.71	.06732	2.12	.08346	2.53	.09961
.90	.03543	1.31	.05157	1.72	.06772	2.13	.08386	2.54	.10000
.91	.03583	1.32	.05197	1.73	.06811	2.14	.08425	2.55	.10039
.92	.03622	1.33	.05236	1.74	.06850	2.15	.08465	2.56	.10079
.93	.03661	1.34	.05276	1.75	.06890	2.16	.08504	2.57	.10118
.94	.03701	1.35	.05315	1.76	.06929	2.17	.08543	2.58	.10158
.95	.03740	1.36	.05354	1.77	.06969	2.18	.08583	2.59	.10197
.96	.03780	1.37	.05394	1.78	.07008	2.19	.08622	2.60	.10236
.97	.03819	1.38	.05433	1.79	.07047	2.20	.08661	2.61	.10276
.98	.03858	1.39	.05472	1.80	.07087	2.21	.08701	2.62	.10315
.99	.03898	1.40	.05512	1.81	.07126	2.22	.08740	2.63	.10354
1.00	.03937	1.41	.05551	1.82	.07165	2.23	.08780	2.64	.10394
1.01	.03976	1.42	.05591	1.83	.07205	2.24	.08819	2.65	.10433
1.02	.04016	1.43	.05630	1.84	.07244	2.25	.08858	2.66	.10472
1.03	.04055	1.44	.05669	1.85	.07283	2.26	.08898	2.67	.10512
1.04	.04094	1.45	.05709	1.86	.07323	2.27	.08937	2.68	.10551
1.05	.04134	1.46	.05748	1.87	.07362	2.28	.08976	2.69	.10591
1.06	.04173	1.47	.05787	1.88	.07402	2.29	.09016	2.70	.10630
1.07	.04213	1.48	.05827	1.89	.07441	2.30	.09055	2.71	.10669
1.08	.04252	1.49	.05866	1.90	.07480	2.31	.09094	2.72	.10709
1.09	.04291	1.50	.05906	1.91	.07520	2.32	.09134	2.73	.10748
1.10	.04331	1.51	.05945	1.92	.07559	2.33	.09173	2.74	.10787
1.11	.04370	1.52	.05984	1.93	.07598	2.34	.09213	2.75	.10827
1.12	.04409	1.53	.06024	1.94	.07638	2.35	.09252	2.76	.10866
1.13	.04449	1.54	.06063	1.95	.07677	2.36	.09291	2.77	.10906
1.14	.04488	1.55	.06102	1.96	.07717	2.37	.09331	2.78	.10945
1.15	.04528	1.56	.06142	1.97	.07756	2.38	.09370	2.79	.10984
1.16	.04567	1.57	.06181	1.98	.07795	2.39	.09409	2.80	.11024
1.17	.04606	1.58	.06220	1.99	.07835	2.40	.09449	2.81	.11063
1.18	.04646	1.59	.06260	2.00	.07874	2.41	.09488	2.82	.11102
1.19	.04685	1.60	.06299	2.01	.07913	2.42	.09528	2.83	.11142
1.20	.04724	1.61	.05339	2.02	.07953	2.43	.09567	2.84	.11181
1.21	.04764	1.62	.06378	2.03	.07992	2.44	.09606	2.85	.11221
1.22	.04803	1.63	.06417	2.04	.08032	2.45	.09646	2.86	.11260
1.23	.04843	1.64	.06457	2.05	.08071	2.46	.09685	2.87	.11299
1.24	.04882	1.65	.06496	2.06	.08110	2.47	.09724	2.88	.11339
1.25	.04921	1.66	.06535	2.07	.08150	2.48	.09764	2.89	.11378
1.26	.04961	1.67	.06575	2.08	.08189	2.49	.09803	2.90	.11417

Searl knowledge 1946-1947:

mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
2.91	.11457	3.32	.13071	3.73	.14685	4.14	.16229	4.55	.17913
2.92	.11496	3.33	.13110	3.74	.14724	4.15	.16339	4.56	.17953
2.93	.11535	3.34	.13150	3.75	.14764	4.16	.16378	4.57	.17992
2.94	.11575	3.35	.13189	3.76	.14803	4.17	.16417	4.58	.18032
2.95	.11614	3.36	.13228	3.77	.14843	4.18	.16457	4.59	.18071
2.96	.11654	3.37	.13268	3.78	.14882	4.19	.16496	4.60	.18110
2.97	.11693	3.38	.13307	3.79	.14921	4.20	.16535	4.61	.18150
2.98	.11732	3.39	.13347	3.80	.14961	4.21	.16575	4.62	.18189
2.99	.11772	3.40	.13386	3.81	.15000	4.22	.16614	4.63	.18228
3.00	.11811	3.41	.13425	3.82	.15039	4.23	.16654	4.64	.18268
3.01	.11850	3.42	.13465	3.83	.15079	4.24	.16693	4.65	.18307
3.02	.11890	3.43	.13504	3.84	.15118	4.25	.16732	4.66	.18347
3.03	.11929	3.44	.13543	3.85	.15158	4.26	.16772	4.67	.18386
3.04	.11969	3.45	.13583	3.86	.15197	4.27	.16811	4.68	.18425
3.05	.12008	3.46	.13622	3.87	.15236	4.28	.16850	4.69	.18465
3.06	.12047	3.47	.13661	3.88	.15276	4.29	.16890	4.70	.18504
3.07	.12087	3.48	.13701	3.89	.15315	4.30	.16929	4.71	.18543
3.08	.12126	3.49	.13740	3.90	.15354	4.31	.16969	4.72	.18583
3.09	.12165	3.50	.13780	3.91	.15394	4.32	.17008	4.73	.18622
3.10	.12205	3.51	.13819	3.92	.15433	4.33	.17047	4.74	.18661
3.11	.12244	3.52	.13858	3.93	.15472	4.34	.17087	4.75	.18701
3.12	.12284	3.53	.13898	3.94	.15512	4.35	.17126	4.76	.18740
3.13	.12323	3.54	.13937	3.95	.15551	4.36	.17165	4.77	.18780
3.14	.12362	3.55	.13976	3.96	.15591	4.37	.17205	4.78	.18819
3.15	.12402	3.56	.14016	3.97	.15630	4.38	.17244	4.79	.18858
3.16	.12441	3.57	.14055	3.98	.15669	4.39	.17284	4.80	.18898
3.17	.12480	3.58	.14095	3.99	.15709	4.40	.17323	4.81	.18937
3.18	.12520	3.59	.14134	4.00	.15748	4.41	.17362	4.82	.18976
3.19	.12559	3.60	.14173	4.01	.15787	4.42	.17402	4.83	.19016
3.20	.12598	3.61	.14213	4.02	.15827	4.43	.17441	4.84	.19055
3.21	.12638	3.62	.14252	4.03	.15866	4.44	.17480	4.85	.19095
3.22	.12677	3.63	.14291	4.04	.15906	4.45	.17520	4.86	.19134
3.23	.12717	3.64	.14331	4.05	.15945	4.46	.17559	4.87	.19173
3.24	.12756	3.65	.14370	4.06	.15984	4.47	.17598	4.88	.19213
3.25	.12795	3.66	.14409	4.07	.16024	4.48	.17638	4.89	.19252
3.26	.12834	3.67	.14449	4.08	.16063	4.49	.17677	4.90	.19291
3.27	.12874	3.68	.14488	4.09	.16102	4.50	.17717	4.91	.19331
3.28	.12913	3.69	.14528	4.10	.16142	4.51	.17756	4.92	.19370
3.29	.12953	3.70	.14567	4.11	.16181	4.52	.17795	4.93	.19409
3.30	.12992	3.71	.14606	4.12	.16221	4.53	.17835	4.94	.19449
3.31	.13032	3.72	.14646	4.13	.16260	4.54	.17874	4.95	.19488

Searl knowledge 1946-1947:

Mm inches mm inches

4.96 .19528 5.46 .21496
 4.97 .19567 5.47 .21535
 4.98 .19606 5.48 .21575
 4.99 .19646 5.49 .21614
 5.00 .19685 5.50 .21654

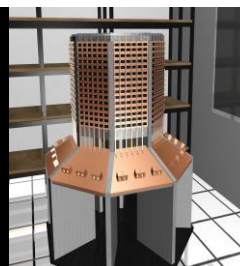
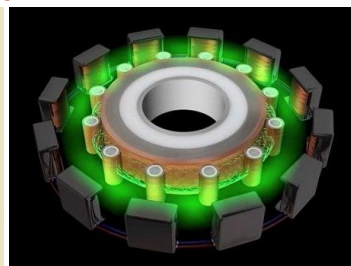
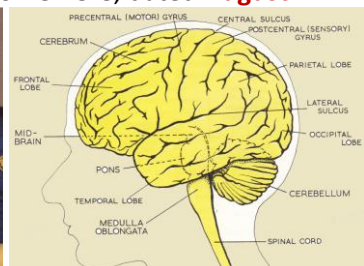


Searl states that this was a perfect offer of a vehicle for the use of **SWALLOW COMMAND AUDIO, VISION & COMMUNICATION DIVISION** of **SEARL AEROSPACE CORPORATION**. The day shall come when such vehicles, powered by the **S.E.G.** will be seen on tour demonstrating the power of the **S.E.G.** to the world. The **Technology** that is **green**. Searl states that in its function it reduces the **pollution around itself**, which no other **Technology** appears to do. How soon this will take place relates only to funds being available to get the skill workforce to construct them. Time could be near to win.



This table shown here means that Searl may not had formal education; but he had a far better teacher, called the brain. That educated him while he slept, with such simple methods called **hopscotch**. What an amazing game that is.

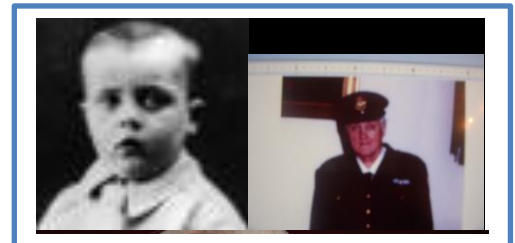
The world of: **Swallow Command Audio-Vision-Communication Division –U.S.A.** This brand new 3D camera has been pack with other equipment in a container in the UK to be shipped; to cover the research and development work in process in the area of San Diego, California, U.S.A. Searl understand that it is not yet on its way here; customs require more documents which had to be sign by Searl first which he has now done, so Searl hope it now can be released to come here; dated **August 17th 2014**.



Searl knowledge 1946-1947:

ANSWERS UNIT ONE – CURRENT.

- 1 A The electron has a negative charge which is normally offset by the positive charge of a proton. When an atom loses an electron; it loses a negative charge and therefore, has a net positive charge.
- 2 B The electron has a negative charge. The proton has an equal but opposite (Positive) charge. The neutron has no charge at all.
- 3 D all electrons have negative charges. Since like charges repel; one electron will repel another.
- 4 B Objects with too few electrons have positive charge. Since they have like charges they will repel each other.
- 5 B to have a neutral charge:: the negative charge of each electron must be: cancel by a positive charge of a proton.
- 6 C Since electrons have a negative charge; they must flow from negative to positive charges.
- 7 A without free electrons, a substance cannot support current flow. A substance with few electrons is an insulator.
- 8 D the unit of electric charge is the coulomb.
- 9 B The unit of current is the ampere.
- 10 D The ampere is equal to one coulomb per second.
- 11 A a milliampere is one thousandths of an ampere. One thousandths is equal to 0.001
- 12 D a microampere is one millionth of an ampere. Thus, there are one million Microamperes in an ampere.



NOTE: that there will be two questions to come once my equipment is available to use to draw the diagrams for them. Therefore there are no answers for them available at this time; until the questions are released to the public. What Searl have so far quoted is just a fine hairline of the whole required **knowledge base** that is needed to create the **S.E.G.**

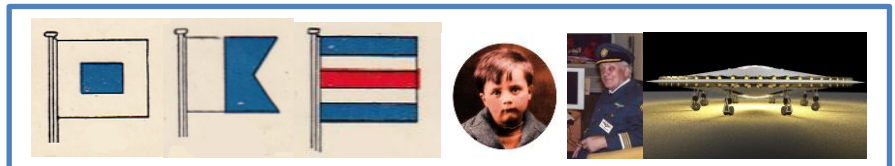
Searl knowledge 1946-1947

Most children dislike **mathematics**; why is the main question. In my case no one help me to learn. On arriving at the **navy school**; Searl had no **knowledge** on **Mathematics** or the **alphabet**. All which Searl knew was based on what he observed. Searl know that he is not alone that even today, there are many such children facing the same problem, their parents do not help them to learn.

The **navy** brought Searl into a complete **different world**, one that was a shock to him, which never should had been. But Searl had no option but change his **world** to this **world of reality**. It proves to Searl that some parents cannot face **reality**, thus, their children suffer in the long run, in most cases.

In **engineering** and much more so in **research** and **development labs**; **mathematics** is vital. Therefore, this document really consists of two parts. The first, which is brief, describes the **nature** of **mathematics** and picks up the **threads** of **previous knowledge**. The second, which serves the main purpose of the **Searl Global Technologies** which covers topics representing subjects of **scientific** or practical interest in which our teams are **researching** and **developing** here in the USA.

A DEFINITON OF STATISTICS.



Modern statistics is a new and **vigorous discipline**. It is so new that some of the men who were most instrumental in establishing **statistics** as it is known are still actively engaged in research and teaching. Its vigour can be attested from the fact that **statistics** is growing so rapidly that it is impossible to incorporate many of the latest **techniques** in a document, for by the time the last section is written the first part already need revision.

Statistics is playing an increasingly important role in **research activities**. For this reason it is necessary that special training in **statistics** be given as early as possible so that **experimentation** and **scientific investigations** do not suffer. Searl states that the study of **statistics** should not be viewed as just another area of study which is merely desirable for the **scientist** and **engineer**; instead, **statistics** should be viewed; as a very sensitive instrument which is capable of successfully coping with many of the difficult problems posed by modern **investigations**. Ignoring the use of **statistics** in many of our **research** activities today should no more be tolerated than that of ignoring tractors and combines in the wheat fields of Kansas or of ignoring the latest drugs in the treatment of ailments?

The term '**statistics**' is old, but its present day **interpretations** is very young. The term no longer simply refers to the **collections** and **compilation** of **data**; instead, **statistics** is often called **the science of decision making in the face of uncertainty**. It has to do with both the **deductive** and the **inductive process**, that is, both **mathematical** and **scientific procedures**. **Searl will now deal with statistics which relates to his time of the past for the facts of his time; so you can assess the changes if good or bad.**

Searl knowledge 1946-1963:

STATISTICS as SEARL UNDERSTOOD THOSE 1946: INTRODUCTION:

The contents of this document have been deliberately designed with **SEARL GLOBAL TECHNOLOGIES** functions in mind to operate with the business student development and an attempt has been made to present statistical methods and concepts in a business context rather than in a pure mathematical framework. Searl states that it is a fact that many students and practising managers have difficulty in coping with the numerate aspects of their courses or jobs, partly because of the isolated and divorced manner in which numerate techniques and statistical methods are often taught and presented, and partly because they feel incompetent to handle the most basic of numerate material. Searl points out that there tends to be an aura of mystique surrounding numbers and their manipulation. Unfamiliar signs, equations, tables and graphs all look very impressive but frequently, cause panic and confusion to the non-mathematician.

Searl says that within **SEARL GLOBAL TECHNOLOGIES** there will be an ever-increasing demand for **managers** with **numerate ability** as well as **literary skills**, not only so that they can present **numerate data** and **information** which requires **analysis** and **interpretation** but, more importantly, so that they can quickly **scan** and understand **analyses** produced both from within the firm and by outside organizations. In the **competitive** and **dynamic business world**, those enterprises which are most likely to succeed, and indeed survive, are those like **SEARL GLOBAL TECHNOLOGIES** must be, which are capable of **maximizing** the use of **tools of management**, including **statistical** and **numerate analysis**. Searl states that: **the STATISTICS DEPARTMENT of SEARL GLOBAL TECHNOLOGIES** will require a large area to hold the correct selection of equipment and the storage of data, which will be collected from the research undertaken throughout the company.

SEARL GLOBAL TECHNOLOGIES will be constructed with many divisions specializing in a predetermined research and development that will get American industry back on its feet. This is a massive task – but with determination it is possible to achieve. Already in the USA **SEARL MAGNETICS CORPORATION** is progressing upon the magnetic research and development and just now successfully discovered something new in magnetic effects, which Searl has never witness before. We yet to study this unknown effect, how we can employ it – there must be some use for such effects. Once we have unearthed it, we let you know.

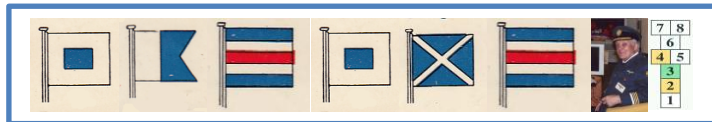
SEARL AEROSPACE CORPORATION here in the **USA**, has started to get prepared to start undertaking **research** and **development** of an **I-G-V**. In around six weeks' time, if all goes well. This document will show what each section of **SEARL GLOBAL TECHNOLOGIES** must operate and function to meet the demand of the company success.

Searl states that essentially, **statistics** is concerned with **abstracting** data, **classifying** it and then **comparing** it with data obtained from similar sources so that **plans** and **control mechanisms** can be **implemented**. Searl states that **control** is the *raison d'être* of **statistical analysis**: it is also, as Searl says, '**the Siamese twin of planning**', which in turn is a **prerequisite** for achieving corporate objectives. Searl states that the control procedures must permeate every functional area of **SEARL GLOBAL TECHNOLOGIES** as well as the total system of **SEARL GLOBAL TECHNOLOGIES**. Searl says, that the important areas include the optimum allocation of resources – labour, machines, money and raw materials – which **SEARL MAGNETICS CORPORATION** has at this time enough machines and raw materials to evaluation of machine performance, quality control requirements, stock control measures, the analysis of market research information, sales forecasting and budget preparation, and financial investment decisions. Searl says that the analysis of any or all of these may provide the basis for future action. Searl problem lies in the fact that very few people understand what it take to set up research lab, and develop the produce which you wish to market. The cost out going and the struggle to get cash flow in to offset out going cash flow.

Searl knowledge 1946-1963:

Searl states that the aim of this document is not only to remind the staff members of **SEARL GLOBAL TECHNOLOGIES** units of basic **statistical** methods but also to demonstrate their practical applications. Of course, Searl says that the text is not exhaustive, and the members are urged to consult the information contained within this document which will give a more discursive and detailed account of statistical techniques. It will also be useful to those for the examinations of the various professional bodies who might apply for a post with **SEARL GLOBAL TECHNOLOGIES** when vacancies become available.

Data – collection and representation:



Numerical data are the raw material of **statistical investigation**, but the input of relevant and appropriate data is not an intermittent or periodic event; it is occurring all the time and the data are readily available from such sources as the media and government publications. Searl says that data are usually also available from other sources and are classified as **primary** or **secondary** data, depending on the method of collection and the source.

Primary data are original data gathered specifically for the current investigation and initiated by the collecting organization.

Secondary data are those data already gathered and perhaps published by another organization. Searl says that secondary data are invariably cheaper to obtain than primary data and, as well as being obtainable from government bodies such as the Central Office of Information and HMSO, they may be acquired from trade organizations and journals such as: **Management Today** and **The Economist**, and from public libraries, independent television companies and the Yearbook of the Market Research Society, which contains a succinct analysis of the population of the UK. Sorry I have very little information on the USA.

Searl say that **SEARL GLOBAL TECHNOLOGIES**, particularly their marketing departments, should decide to collect primary data without determining whether or not answers can be found from data which are already published and available. Searl says, in other words, is there much merit in conducting **DESK RESEARCH** before stepping out to collect primary data. Searl states that desk research provides the means for the rapid assembly of relevant published material which will be of help when assessing the scope and nature of further research: desk research can comment on the thoroughness and accuracy of the published information and provide a useful list of reference and sources: it can also highlight areas where further research is needed.

Searl must state that he has had complaints from members in reference to Morris spending so much time on the international web searching for information, and he has obtained equipment cheaper, and materials which are now being tested here at **SEARL MAGNETICS CORPORATION**. Whereby the kind of data Searl needs for his tasks on the company is better in book form, which now in 2015 many companies have given up printing due to the cost Sad to say.

There is no question about Searl not having data; he had millions of files, many of which were supplied by the British Government laboratories and NASA. Agree that many firms sent large data catalogues covering all of their products, some of which are actually here in the USA, so Searl shall be able still to select products for his side of the research being done here in San Diego. For any experts stating that Searl could not have done this work, due no lack of education, is insane.

Searl agrees that there is lot of work to do here to get in to top gear, but we shall succeed. That is Searl determination to win against all odds. Right Richard Branson?

Searl knowledge 1946-1963:

Searl says: To reiterate, the task of the **statistician** is to:

1. **Measure** accurately:
2. **Couch problems** in **quantitative** terms:
3. **Prepare** the ground for logical **inference**.

... -- --••/ ... -- --••/
... -- --/ ... -- ••/ ••--••//

We care here in San Diego to
try to clean up any pollution
problems there are.



Searl fact-finding, however, does not supersede judgement, rather it is complementary. Searl states having obtained all the relevant information, which Fernando Morris from samples of the material, which can be said or **inferred** about the materials properties. Searl could use the population as a sample to which Searl inferred about, Searl present for you to see what he means Figure S1, and having drawn inferences, Searl ask what decisions can be taken? Searl says that at this point the manager and **statistician** may part company!

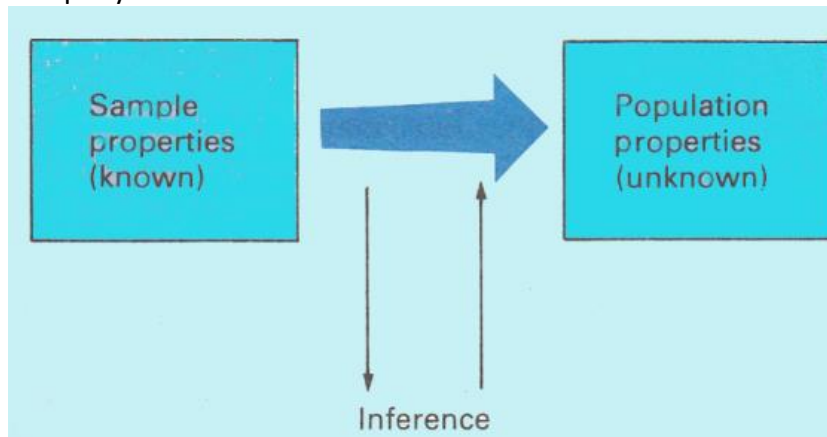


Figure S1: Inferential analysis sample based on population, in Searl case could be materials – metals, plastics. Here Searl is showing the real facts for research and development of any major project regardless. Today, 2015 the cost of research and development has rocketed from the cheap days of 1946. But with a good team the S.E.G. is still possible.

Searl say that the concept of **omnibus surveys** must be mentioned. The problem that Searl sees is that a survey of 4000 men/women, asking one question only, will cost almost as much, in terms of fieldwork costs, as a survey of similar design and sample size but asking 25 questions. Searl points out that most of the cost is incurred in travelling time and making contact with the respondents. Searl say that omnibus (**occasionally known as 'syndicated'**) Surveys, instead of being devoted to one research project, consist of a number of sub questionnaires, each one being a survey in its own right. Searl agrees that the cost of the interviewer can therefore be shared between several surveys. To Searl understanding this technique is undertaken almost entirely by market research specialists who offer space on their questionnaire.

A diagrammatic representation of a statistical study is shown in Figure S2.

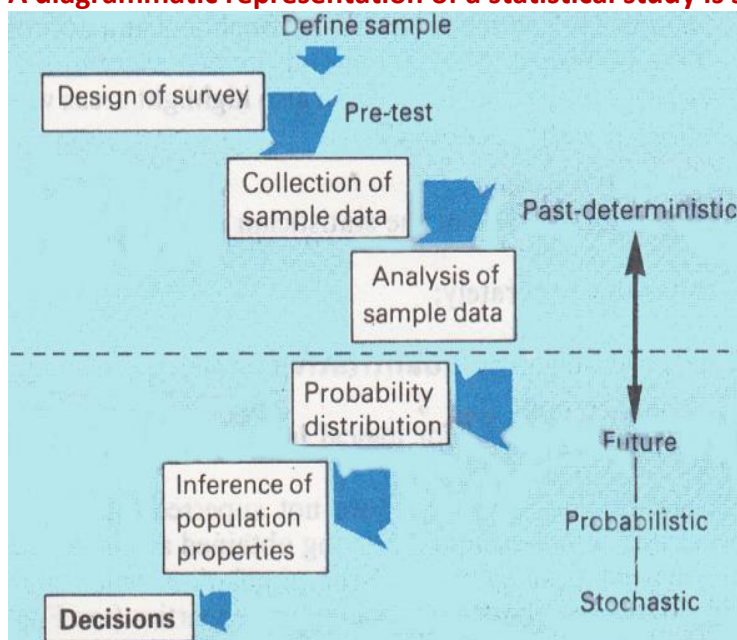
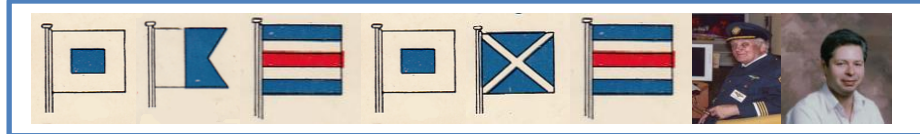
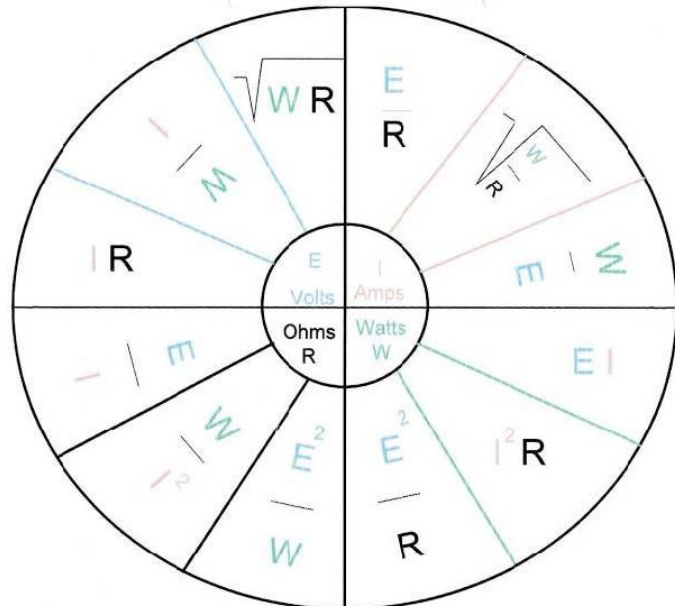
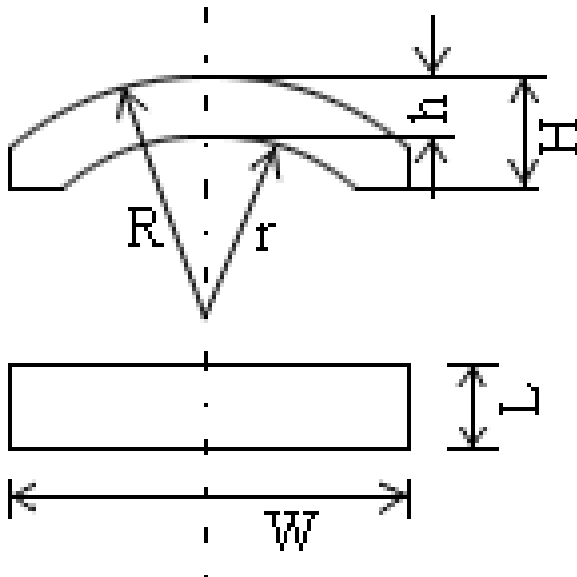


Figure S2: Representation of a statistical study. Searl present this sample to give you a true picture what Searl has to create to be within the law of operation and function. Searl states that he agrees that statistics will be a vital department of SEARL GLOBAL TECHNOLOGIES finding the right men/women to form such team is a target yet to be solved. But out there such people exist; finding them is the difficult part. But only if we can get mass publicity will such personnel turn up to join the future creation of energy and transportation systems. The futures are yours – then make it happen! Together we could move mountains.

Searl knowledge 1946-1963:

DATA PRESENTATION:

Raw data: Searl say there are data that are recorded in the same way or order in which they are obtained, or in some arbitrary fashion. Searl say that these raw and disorderly data must then be processed and reduced into some kind of order. Searl states that they must be organized into an easily understood format, preferably by using some form of pictorial representation such as tables, graphs, bar charts or histograms, in order that trends or patterns can be detected more easily.



Searl accepts that such information shown like this would be difficult for many to understand. So to do this, Searl say: that it is necessary to **classify** the data into their peculiar **characteristics**. Searl will take a much easier subject as a demonstration for this study: Searl say that an example such as width, age, height, weight etc. Searl points out that there are two basic classes of characteristics, namely measurable attributes (**or variables**) and non-measurable attributes. Searl points out that a variable is a feature characteristic of any member of a group which is capable of being measured.

Searl say that a variable may either be **continuous** or **discrete**:

Example:

Table S1: gives the raw data of daily production figures for a light engineering company.

Week	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1	69	70	73	70	71	71
2	67	72	71	71	68	73
3	67	70	74	68	70	70
4	66	68	67	70	69	69
5	68	70	72	73	72	71
6	70	69	69	72	70	73
7	66	70	72	73	74	68
8	70	70	73	68	66	67
9	71	65	68	70	72	70
10	70	70	68	74	72	71

Figure Table S1: Searl expects a Daily production figures of the S.E.G. at **SEARL MAGNETICS CORPORATION**, San Diego, California; USA. As presented here as a possible results. Searl understand what you thinking – impossible – so was the cycle, the motorcar, train, aircraft, telephone and television plus many other daily parts now in constant use by us. Food you eat had to be discovered first, some like **strawberry gateau** had to be invented first – not yet in San Diego! **WHY NOT?** It's the best cake I know.

Searl knowledge 1946-1963:

Searl explains that the variable is the number of **S.E.G.s** units produced each day; it is also a discrete variable because part-made units do not count. Searl agrees that the raw data do not convey much information, but Table S2 shows the data ordered and arranged in an **ARRAY** of ascending order of magnitude.

65	68	69	70	71	72
66	68	70	70	71	73
66	68	70	70	71	73
66	68	70	70	71	73
67	68	70	70	72	73
67	68	70	70	72	73
67	69	70	70	72	73
67	69	70	71	72	74
68	69	70	71	72	74
68	69	70	71	72	74

Table S2: Ascending order of magnitude. Searl agrees that so far everything has been simple for most of you. But some of you may still be lost in **mathematics**. Searl is trying hard to find simple explanations in teaching about the **S.E.G.** unless you are actually working on it. Really this is showing what the department term **STATISTICS** has to function and perform daily to be of value.

Searl say that further refinements might produce the following rearrangement.

Cell boundaries	Cell mid-point	Tabulation	Frequency
≤ 65			1
66–68	67		15
69–71	70		28
72–74	73		16

Table S3: A grouped frequency distribution. Table S2, illustrates the **range**, which is simply the difference between the highest and lowest values, i.e., $74 - 65 = 9$. Although Table S3 demonstrates a grouped frequency distribution, in practice **it is not usual to have less than five class intervals**. This is Searl understanding upon this issue.

Searl states that **a frequency distribution** may be numerical or categorical. The distribution is said to be **numerical** if the data are grouped according to numerical size, as in Table S3. A distribution is said to be **categorical** if the data are sorted into categories according to some **qualitative** description rather than numerical size. Searl states that frequency distributions may also be represented graphically, as in Figure S3.

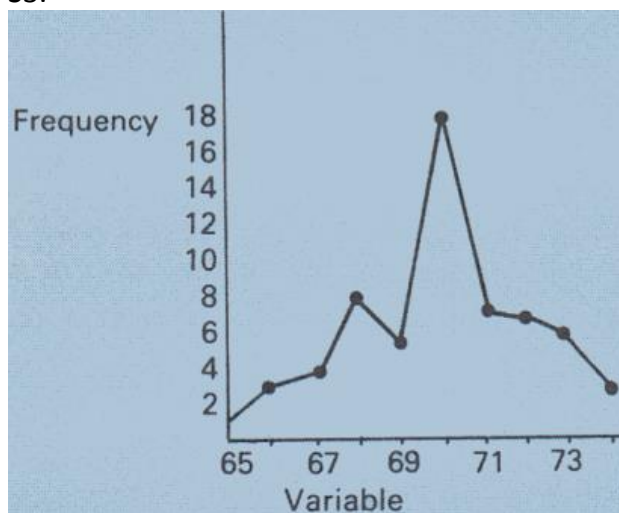


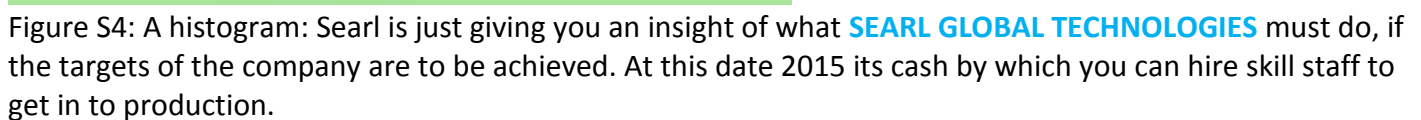
Figure S3: A frequency distribution: Searl say, There are many books on maths to read.



The future is being created here in San Diego, California, USA. Why not help to make tomorrow a reality. Clean air, clean water, and good food. It can be done; it's time to do it.

A frequency polygon: Searl says is constructed by plotting the class frequencies of the various classes at the class (**or cell**) mid-points and then connecting these mid-points. Searl points out that construction of a curve to show a **cumulative** distribution would result in an **ogive**. Searl reminds you that the pie chart, histogram and column chart are other forms of graphical or pictorial representation, and of which Searl may use within this document.

The histogram: Searl say that this is readily constructed from ordered data. Searl points out that if the number of variable values is extensive (**greater than 25**) then the ordinary frequency curve will reflect local variations which may not be representative of the overall picture and may lead to distortion of that overall picture. Searl feel certain that this can be overcome by grouping the data (**as in Table S3**). However, Searl states that when the values are grouped in this way, there will be a certain amount of inherent inaccuracy. From Searl point of view, that when there are too few groups, the inaccuracies become intolerable, e.g., in the extreme case, Searl say all data are placed in one group and thus knowledge of the way in which different output levels (**the production figures**) are achieved is lost. Searl reminds you that a **histrogram** is simply a frequency diagram which is used to represent **grouped** data. Searl explains that it consists of a number of rectangles, one corresponding to each cell, the **areas** of which represent the frequencies within the respective cells.



Page 108©

Searl knowledge 1946-1963:

Searl say however, it should be remember that a histogram that it is **area** of each rectangle which represents the frequency and not the height of the rectangle, i.e., Searl states that if the class interval is twice as wide as the others, the height is divided by two. Figure S4 shows a typical histogram.

Column charts: Searl say that these are used for the aggregates of observations or aggregated observations of similar factors, as shown in Figure S5. Searl will show the following data as represented by the component bar chart.

	Minors	Male adults	Female adults	Total
1980	100	150	200	450
1981	250	150	300	700

Mean daily attendances at the cinema:

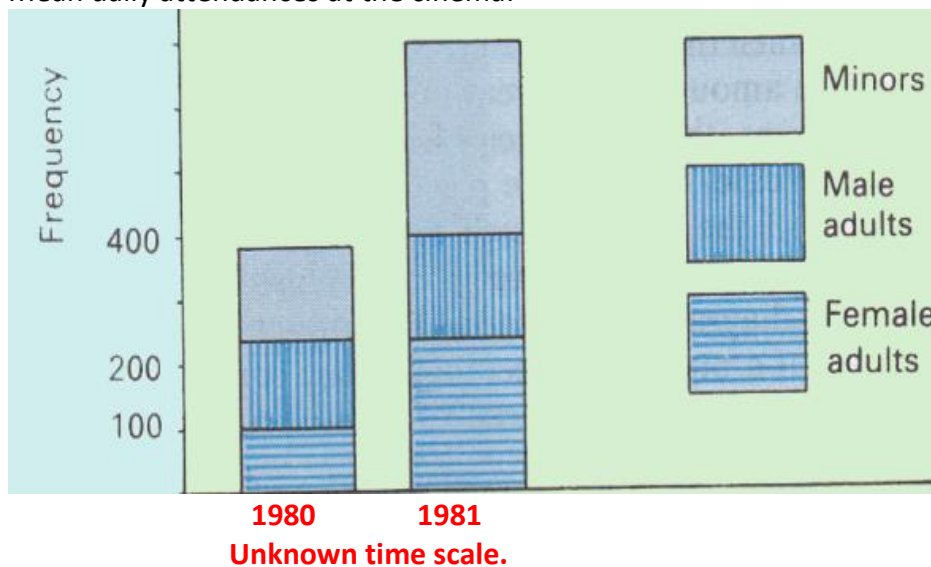


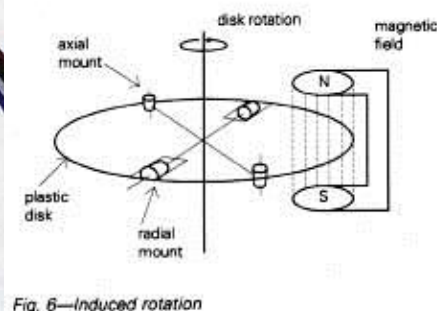
Figure S5: A column chart (**component bar chart**):

Finally, Searl say that it must be remember that the **cumulative frequency** is the sum of all frequencies to date.

Relative frequency: Searl explains this is the frequency in a cell (**or class**) divided by the number of total observations.

Other pictorial representations of data include the pictogram and statistical maps or cartograms.

Pictograms: Searl states use picture symbols to represent values. They do, however, lack precision:



Searl knowledge 1946-1963:

Statistical maps or cartograms: Searl say these are used as a means of conveying information about geographical distributions, e.g., population densities, mean income, number of depots, millimetres of rainfall. Different values are usually indicated by different shades or colours. Searl say: that there two other types of statistical data may be represented by simply diagrams. Searl say that they are **categorical data** which relate to categories or classes, and **time series data**, which are given in a time sequence such as the number of business studies degrees awarded in each of the years between 1960 and 1980. Searl say that categorical data are often represented by pie charts or bar charts as well as by tabulation. From which the length of bar charts or the sector angles of pie charts can be calculated.

Example: Searl give you the following which is a distribution of selected, listed retail outlets from the UK Yellow Pages of the local telephone directory.

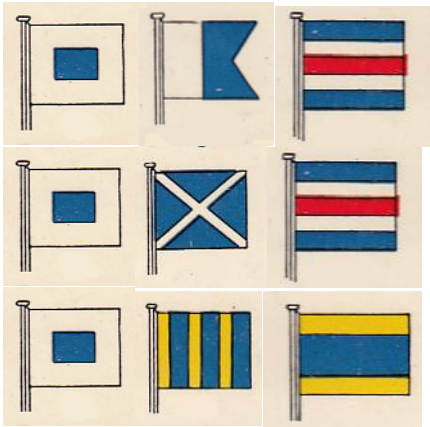
	Number	Bar chart length	Pie chart sector angle	
Antique dealers	75	2.52 cm	37°	 <p>This is the voice of Swallow Command. USA. We are here!</p>
Bakers	132	4.60 cm	65°	
Chemists	196	6.81 cm	97°	
Do-it-yourself	155	5.38 cm	76°	
Electrical goods	44	1.52 cm	22°	
Fishmongers	28	0.97 cm	14°	
Garden centres	64	2.24 cm	32°	
Hi-Fi equipment	36	1.24 cm	17°	
	730	25.28 cm	360°	

Table S4: Categorical distribution:

Time series: Searl say: are usually represented by graphs, with the time measured from left to right on the X-axis and the other variable along the Y-axis. Searl points out: those bar charts are occasionally used to his understanding, especially for comparative purposes when dealing with, say, meteorological data.

Here Searl has been explaining what **SEARL GLOBAL TECHNOLOGIES** must set up to **function** for this kind of **research** and **development**. Also to help those who wish to learn either as a student or just to be able to understand what Searl has and are doing and planning. Searl has only been explaining terms with odd samples to show what is meant.

Searl can now either go full speed into **mathematics** which covers all common problems: or go ahead showing the **table** which Searl used in designing **Demo one**, and **Star Ship Ezekiel MK V**. Which will also be used on **Star Ship Explorer 1**, if the funds become available here in the U.S.A.? The **spacecraft** is a beautiful design vehicle, and we do have an airfield called Gilespe basically at the end of the garden.

The head of the **Arts department** of **London University** in the **UK**, when he visited Searl; he requested, if Searl could allow his students to spend weekends at **Star Port Earth One**, as it was known in those days. Searl gave him the OK, and so it was that students enjoy their **Saturday nights** at the site where **Demo One** was being constructed; as the students would explain to Searl on **Sundays mornings** how **Demo One** looked like an **alien space ship** as the **Moon light** penetrated through the tree tops upon it. Searl must admit that he has never seen an **alien space ship**, so he has no idea if it does look like an **alien space ship**. Clearly these students had seen something which Searl has never seen. But maybe they had been drinking some hard stuff. Though the area: was getting lots of publicity about U.F.O.s sightings: Searl never saw any.

Searl knowledge 1946-1963:

Searl informs you that the formulas which he uses here are the best he can do with the symbols he has available to use. Searl suggest: let us consider the problem of sagging by taking the hypothetical case of a straight line **AB** of a **l** which becomes bent into an arc of a circle of radius **R**: figure 2. At this point Searl says: that **AB** is now a chord of the circle, and if this **chord** subtends an angle **2θ** at the centre, Searl says that we have:

$$\text{Arc ACB} = l = 2R\theta$$

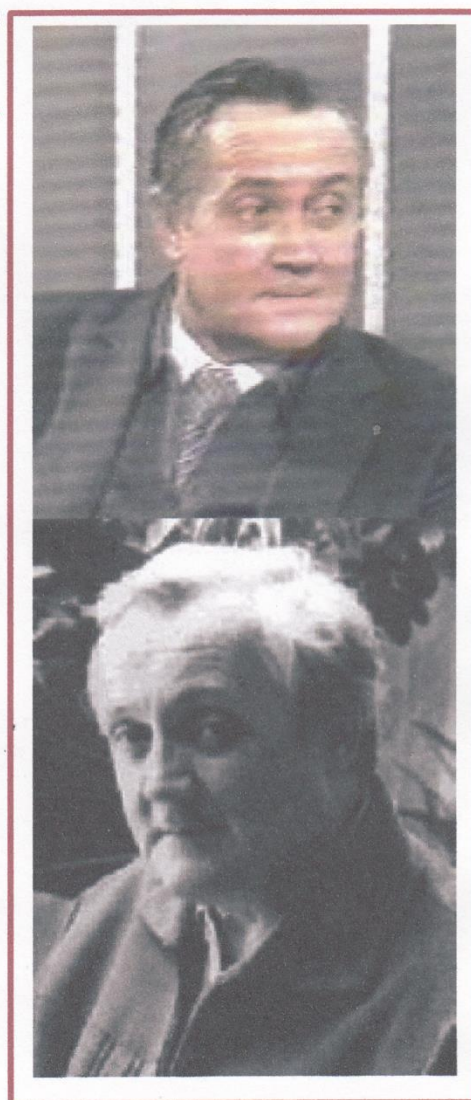
$$\text{ADB} = 2R \sin \theta.$$

Searl has used some **mathematical terms**, which Many of you have no understanding what they

Mean. The term **chord** had to be used in designing Demo 1 and Star Ship Ezekiel MK V and will also be needed for the design of Star Ship Explorer 1; if funds give it the go ahead. So what is a **chord**? It is a table of values which are useful for circler object such as the **I-G-V**. And very large: **S.E.G.s**. So you experts think it is easy to design a flying saucer as you term it. The only **flying saucer** you will ever see is the one the wife throws at you. So here are the **chord table** starting at **0 degree**.



=====					
'	Chord	'	chord	'	chord
=====					
0	0000000	21	0061087	42	0122172
1	0002909	22	0063995	43	0125081
2	0005818	23	0066904	44	0127990
3	0008727	24	0069813	45	0130899
4	0011636	25	0072722	46	0133808
5	0014544	26	0075630	47	0136717
6	0017453	27	0078539	48	0139626
7	0020362	28	0081448	49	0142534
8	0023271	29	0084357	50	0145442
9	0026180	30	0087266	51	0148351
10	0029089	31	0090175	52	0151260
11	0031998	32	0093084	53	0154169
12	0034907	33	0095993	54	0157078
13	0037815	34	0098902	55	0159987
14	0040724	35	0101811	56	0162896
15	0043633	36	0104720	57	0165805
16	0046542	37	0107628	58	0168714
17	0049451	38	0110536	59	0171622
18	0052360	39	0113455	60	0174530
19	0055269	40	0116354		
20	0058178	41	0119263		



Searl knowledge 1946-1968:

Table 2: chord 1 Degree:

•	Chord	•	Chord
0	0174530	31	0264701
1	0177439	32	0267610
2	0180348	33	0270518
3	0183257	34	0273426
4	0186166	35	0276335
5	0189075	36	0279244
6	0191984	37	0282152
7	0194892	38	0285060
8	0197800	39	0287969
9	0200700	40	0290878
10	0203618	41	0293787
11	0206527	42	0296696
12	0209436	43	0299604
13	0212345	44	0302512
14	0215254	45	0305421
15	0218162	46	0308330
16	0221070	47	0311238
17	0223979	48	0314146
18	0226888	49	0317055
19	0229797	50	0319964
20	0232706	51	0322872
21	0235614	52	0325780
22	0238522	53	0328689
23	0241431	54	0331598
24	0244340	55	0334506
25	0247249	56	0337414
26	0250158	57	0340323
27	0253066	58	0343232
28	0255074	59	0346140
29	0258883	60	0349048
30	0261792	1 deg. completed	

Table 3; chord 2 degree

•	Chord	•	Chord
0	0349048	31	0439206
1	0351956	32	0442114
2	0354864	33	0445022
3	0357773	34	0447930
4	0360682	35	0450838
5	0363590	36	0453746
6	0366498	37	0456654
7	0369407	38	0459562
8	0372316	39	0462471
9	0375224	40	0465380
10	0378132	41	0468288
11	0381040	42	0471196
12	0383948	43	0474104
13	0386857	44	0477012
14	0389766	45	0479920
15	0392674	46	0482828
16	0395582	47	0485736
17	0398490	48	0488644
18	0401398	49	0491552
19	0404307	50	0494460
20	0407216	51	0497368
21	0410124	52	0500276
22	0413032	53	0503184
23	0415040	54	0506092
24	0418848	55	0509000
25	0421756	56	0511908
26	0424664	57	0514816
27	0427573	58	0517724
28	0430482	59	0520631
29	0433390	60	0523538
30	0436298	2 Deg. completed	

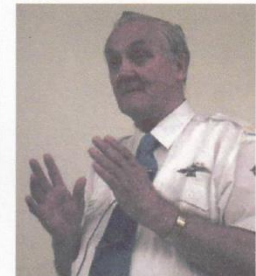
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Mathematics is
required for
everything that S.T.
stands for. Prof. J. R.
R. Searl.

Searl states that no man/woman can live happily who regards himself/herself alone, who turns everything to his/her own advantage. Searl says that thou must live for another if thou wish to live for thyself. Searl says: that the most satisfying thing in life is to have been able give a large part myself to others. Searl says that even then the evil ones still steal from him regardless. This insanity level is hard to believe when this planet is in great need of help and they bank on stopping that help; which could have been available today. Millions of lives over the last 3 years that was lost which many could have been saved had this technology been available. Instead people like **Flowerbower** and more nearer home are determined to block it, unless they can own it. Why should Searl give it free to them when they done nothing to help. They have not suffered or gone without like Searl has to reach this stage. The best answer for them is a good bitching in public and them 40 years very hard labour.

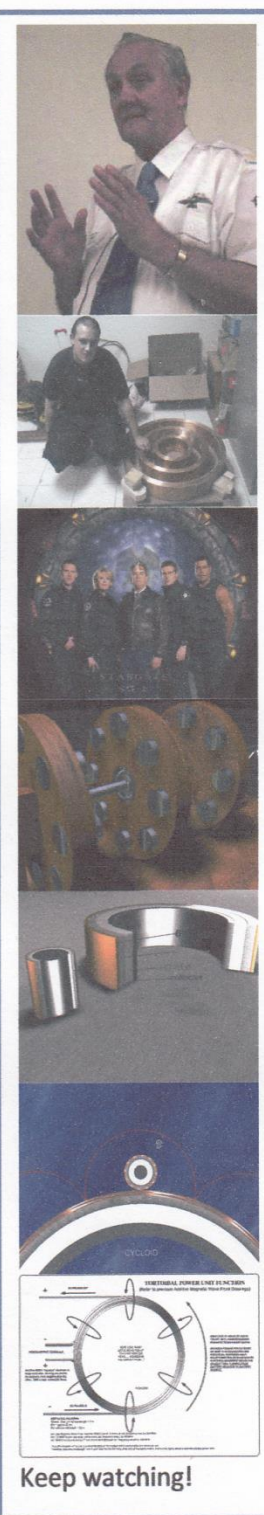
Searl knowledge 1946-1968:

Table 4: chord 3 Degree:

•	Chord	•	Chord
0	0523538	31	0613678
1	0526446	32	0616586
2	0529354	33	0619493
3	0532262	34	0622400
4	0535170	35	0625308
5	0538078	36	0628216
6	0540986	37	0631123
7	0543894	38	0634030
8	0546802	39	0636937
9	0549710	40	0639844
10	0552618	41	0642752
11	0555525	42	0645660
12	0558432	43	0648567
13	0561340	44	0651474
14	0564248	45	0654381
15	0567156	46	0657288
16	0570064	47	0660196
17	0572972	48	0663104
18	0575880	49	0666011
19	0578787	50	0668918
20	0581694	51	0671825
21	0584602	52	0674732
22	0587510	53	0677640
23	0590417	54	0680548
24	0593324	55	0683455
25	0596232	56	0686362
26	0599140	57	0689269
27	0602048	58	0692176
28	0604956	59	0695083
29	0607863	60	0697990
30	0610770	3 deg. completed	

Table 5; chord 4 degree

•	Chord	•	Chord
0	0697990	31	0788103
1	0700897	32	0791010
2	0703804	33	0793916
3	0706711	34	0796822
4	0709618	35	0799729
5	0712525	36	0802636
6	0715432	37	0805542
7	0718339	38	0808448
8	0721246	39	0811355
9	0724153	40	0814262
10	0727060	41	0817168
11	0729967	42	0820074
12	0732874	43	0822981
13	0735781	44	0825888
14	0738688	45	0828794
15	0741595	46	0831700
16	0744502	47	0834607
17	0747409	48	0837514
18	0750316	49	0840420
19	0753223	50	0843326
20	0756130	51	0846232
21	0759036	52	0849138
22	0761942	53	0852044
23	0764849	54	0854950
24	0767756	55	0857857
25	0770663	56	0860764
26	0773570	57	0863670
27	0776477	58	0866576
28	0779384	59	0869482
29	0782290	60	0872388
30	0785196	4 Deg. completed	



Searl says that happiness comes only when we push our brains and hearts to the farthest reaches of which we are capable. Searl states that money, Or even power, can never yield happiness unless it is accompanied by the goodwill of others. Searl says, to act with common sense, according to the moment, is the best wisdom; and the best philosophy is to do one's duties, to take the world as it comes, submit respectfully to one's lot, and with it , whatever it is. This has been Searl life standard, and still shall remain so!

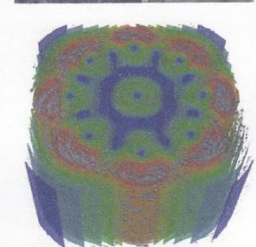
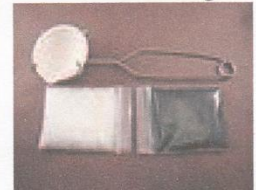
Searl knowledge 1946-1968:

Table 6: chord 5 Degree:

•	Chord	•	Chord
0	0872388	31	0962468
1	0875294	32	0965374
2	0878200	33	0968279
3	0881106	34	0971184
4	0884012	35	0974090
5	0886918	36	0976996
6	0889824	37	0979901
7	0892730	38	0982806
8	0895636	39	0985711
9	0898542	40	0988616
10	0901448	41	0991522
11	0904354	42	0994428
12	0907260	43	0997333
13	0910166	44	1000238
14	0913072	45	1003143
15	0915978	46	1006048
16	0918884	47	1008953
17	0921789	48	1011858
18	0924694	49	1014764
19	0927600	50	1017670
20	0930506	51	1020575
21	0933412	52	1023480
22	0936318	53	1026385
23	0939224	54	1029290
24	0942130	55	1032195
25	0945035	56	1035100
26	0947940	57	1038005
27	0950846	58	1040910
28	0953752	59	1043815
29	0956657	60	1046720
30	0959562	5 deg. completed	

Table 7; chord 6 degree

•	Chord	•	Chord
0	1046720	31	1136760
1	1049624	32	1139664
2	1052528	33	1142568
3	1055433	34	1145472
4	1058338	35	1148376
5	1061243	36	1151280
6	1064148	37	1154184
7	1067053	38	1157088
8	1069958	39	1159992
9	1072862	40	1162896
10	1075766	41	1165800
11	1078671	42	1168704
12	1081576	43	1171608
13	1084481	44	1174512
14	1087386	45	1177416
15	1090290	46	1180320
16	1093194	47	1183224
17	1096099	48	1186128
18	1099004	49	1189031
19	1101908	50	1191934
20	1104812	51	1194838
21	1107717	52	1197742
22	1110622	53	1200646
23	1113526	54	1203550
24	1116430	55	1206453
25	1119334	56	1209356
26	1122238	57	1212260
27	1125143	58	1215164
28	1128018	59	1218067
29	1130952	60	1220970
30	1133856	6 Deg. completed	



This is my world, the world of tomorrow. We are growing; you could also join us.

Searl says that **table 7** covering all **6 degrees measurements** relates to **unmanned Inverse-Gravity-Vehicle (I-G-Vs)** Not suitable for **manned flight**, but of any form of observing any kind of event; like floods, fires, or any other danger conditions which need to be monitor hourly. The **first 5 tables** cover **disc shape structures** that can contain the **S.E.G.** power train; for its power supply function.

Searl knowledge 1946-1968:

Table 8: chord 7 Degree:

•	Chord	•	Chord
0	1220970	31	1310965
1	1223874	32	1313868
2	1226778	33	1316770
3	1229681	34	1319672
4	1232584	35	1322575
5	1235488	36	1325478
6	1238392	37	1328380
7	1241295	38	1331282
8	1244198	39	1334185
9	1247101	40	1337088
10	1250004	41	1339990
11	1252907	42	1342892
12	1255810	43	1345795
13	1258713	44	1348698
14	1261616	45	1351600
15	1264519	46	1354502
16	1267422	47	1357404
17	1270325	48	1360306
18	1273228	49	1363208
19	1276131	50	1366110
20	1279034	51	1369012
21	1281937	52	1371914
22	1284840	53	1374816
23	1287743	54	1377718
24	1290646	55	1380620
25	1293549	56	1383522
26	1296452	57	1386424
27	1299355	58	1389326
28	1302258	59	1392228
29	1305160	60	1395130
30	1308062	7 deg. completed	

Table 9; chord 8 degree

•	Chord	•	Chord
0	1395130	31	1485071
1	1398032	32	1487972
2	1400934	33	1490873
3	1403835	34	1493774
4	1406736	35	1496674
5	1409638	36	1499574
6	1412540	37	1502475
7	1415441	38	1505376
8	1418342	39	1508277
9	1421244	40	1511178
10	1424146	41	1514078
11	1427047	42	1516978
12	1429948	43	1519879
13	1432850	44	1522780
14	1435752	45	1525680
15	1438653	46	1528580
16	1441554	47	1531480
17	1444455	48	1534380
18	1447356	49	1537281
19	1450258	50	1540182
20	1453160	51	1543082
21	1456061	52	1545982
22	1458962	53	1548882
23	1461863	54	1551782
24	1464764	55	1554682
25	1467665	56	1557582
26	1470566	57	1557582
27	1473467	58	1563382
28	1476368	59	1566282
29	1479269	60	1459182
30	1482170	8 Deg. completed	



This is my world, the world of tomorrow. We are growing you could also join us to speed up the work.

Searl says that **table 8** covering all **7 degrees measurements** relates to **manned Inverse-Gravity-Vehicle (I-G-Vs)** which are suitable for **manned flight**, Not only Earth band employment but for space missions as well The **first 5 tables** cover disc shape structures that can contain the **S.E.G.** power train; for its power supply function. All these tables above **eight degrees** are for **disc shape structures**, such as buildings for any requirements.

Searl knowledge 1946-1968:

Table 10: chord 9 Degree:

•	Chord	•	Chord
0	1569182	31	1659063
1	1572082	32	1661962
2	1574982	33	1664861
3	1577882	34	1667760
4	1580782	35	1670658
5	1583681	36	1673556
6	1586580	37	1676455
7	1589480	38	1679354
8	1592380	39	1682253
9	1595280	40	1685152
10	1598180	41	1688050
11	1601079	42	1690948
12	1603978	43	1693847
13	1606878	44	1696746
14	1609778	45	1699644
15	1612677	46	1702542
16	1615576	47	1705440
17	1618475	48	1708338
18	1621374	49	1711236
19	1624274	50	1714134
20	1627174	51	1717033
21	1630073	52	1719932
22	1632972	53	1722830
23	1635871	54	1725728
24	1638770	55	1728626
25	1641669	56	1731524
26	1644568	57	1734422
27	1647467	58	1737320
28	1650366	59	1740217
29	1653265	60	1743114
30	1656164	9 deg. completed	

Table11; chord 10 degree

•	Chord	•	Chord
0	1743114	31	1832929
1	1746012	32	1835826
2	1748910	33	1838722
3	1751808	34	1841618
4	1754706	35	1844515
5	1757604	36	1847412
6	1760502	37	1850308
7	1763399	38	1853204
8	1766296	39	1856101
9	1769194	40	1858998
10	1772092	41	1861894
11	1774989	42	1864790
12	1777886	43	1867686
13	1780783	44	1870582
14	1783680	45	1873478
15	1786578	46	1876374
16	1789476	47	1879270
17	1792373	48	1882166
18	1795270	49	1885062
19	1798167	50	1887958
20	1801064	51	1890854
21	1803961	52	1893750
22	1806858	53	1896646
23	1809755	54	1899542
24	1812652	55	1902437
25	1815549	56	1905332
26	1818446	57	1908228
27	1821342	58	1911124
28	1824238	59	1914020
29	1827135	60	1916916
30	1830032	10 Deg. completed	



Beware I am here,
watching you – so
keep on watching me

Searl says to act with **common sense**, according to the moment, is the best **wisdom**; and the **best philosophy** is to do **one's duties**, to take the world as it comes, submit respectfully to one's lot, and bless the goodness that has given us so much happiness with it, whatever it is. Unfortunate I am still looking for **happiness**, which Searl doubt he shall ever see now at his age; and state of health; If only you could see the truth for yourself you would be shocked.

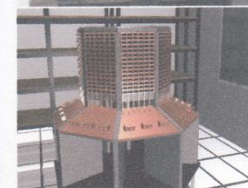
Searl knowledge 1946-1968:

Table 12: chord 11 Degree:

•	Chord	•	Chord
0	1916916	31	2006656
1	1919811	32	2009550
2	1922706	33	2012444
3	1925601	34	2015338
4	1928496	35	2018232
5	1931392	36	2021126
6	1934288	37	2024020
7	1937183	38	2026914
8	1940078	39	2029808
9	1042973	40	2032702
10	1945868	41	2033596
11	1948763	42	2038490
12	1951658	43	2041383
13	1954553	44	2044276
14	1957448	45	2047170
15	1960343	46	2050064
16	1963238	47	2052957
17	1966133	48	2055850
18	1969028	49	2058744
19	1971922	50	2061638
20	1974816	51	2064531
21	1977711	52	2067424
22	1980606	53	2070317
23	1983500	54	2073210
24	1986394	55	2076104
25	1989289	56	2078998
26	1992184	57	2081891
27	1995078	58	2084784
28	1997972	59	2087677
29	2000867	60	2090570
30	2003762	11 deg. completed	

Table13; chord 12 degree

•	Chord	•	Chord
0	2090570	31	2180229
1	2093463	32	2183120
2	2096356	33	2186012
3	2099248	34	2188904
4	2102140	35	2191795
5	2105033	36	2194686
6	2107926	37	2197577
7	2110819	38	2200468
8	2113712	39	2203360
9	2116604	40	2206252
10	2119496	41	2209143
11	2122389	42	2212034
12	2125282	43	2214925
13	2128174	44	2217816
14	2131066	45	2220707
15	2133958	46	2223598
16	2136850	47	2226488
17	2139743	48	2229378
18	2142636	49	2232269
19	2145528	50	2235160
20	2148420	51	2238051
21	2151312	52	2240942
22	2154204	53	2243832
23	2157096	54	2246722
24	2159988	55	2249613
25	2162879	56	2252504
26	2165770	57	2255394
27	2168662	58	2258284
28	2171554	59	2261174
29	2174446	60	2264064
30	2177338	12 Deg. Completed	



Remember Searl is
watching you,
watching him.

Searl says: the reasonable man/woman adapts himself/herself to the world, the unreasonable one persists in trying to adapt to the world to him/her. Searl also says; one of the signs of maturity is a healthy respect for reality; a respect that manifests itself in the level of one's aspirations and in the accuracy of one's assessment of the difficulties which separate the facts of today from the bright hopes of tomorrow. How true, from this chair Searl see many have bright hopes, but lack the reality by which to achieve them.

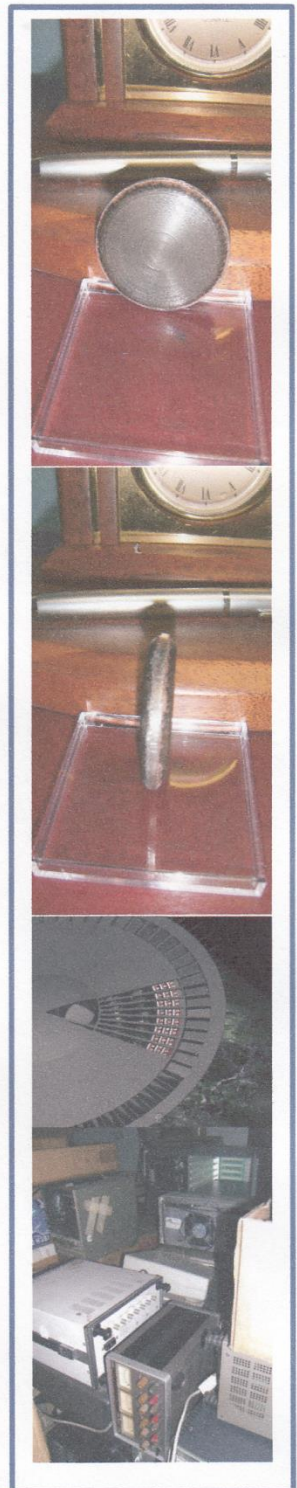
Searl knowledge 1946-1968:

Table 14: chord 13 Degree:

•	Chord	•	Chord
0	2264064	31	2353637
1	2266954	32	2356526
2	2269844	33	2359414
3	2272734	34	2362302
4	2275624	35	2365191
5	2278514	36	2368080
6	2281404	37	2370968
7	2284294	38	2373856
8	2287184	39	2376744
9	2290074	40	2379632
10	2292964	41	2382520
11	2295854	42	2385408
12	2298744	43	2388297
13	2301633	44	2391186
14	2304522	45	2394074
15	2307412	46	2396962
16	2310302	47	2399849
17	2313191	48	2402736
18	2316080	49	2405624
19	2318969	50	2408512
20	2321858	51	2411400
21	2324747	52	2414288
22	2327636	53	2417175
23	2330525	54	2420062
24	2333414	55	2422950
25	2336303	56	2425838
26	2339192	57	2428725
27	2342081	58	2431612
28	2344970	59	2434499
29	2347859	60	2437386
30	2350748	13 deg. completed	

Table15; chord 14 degree

•	Chord	•	Chord
0	2437386	31	2526865
1	2440274	32	2529750
2	2443162	33	2532636
3	2446049	34	2535522
4	2448936	35	2538407
5	2451823	36	2541292
6	2454710	37	2544177
7	2457596	38	2547062
8	2460482	39	2549947
9	2463369	40	2552832
10	2466256	41	2555718
11	2469143	42	2558604
12	2472030	43	2561488
13	2474916	44	2564372
14	2477802	45	2567257
15	2480689	46	2570142
16	2483576	47	2573027
17	2486462	48	2575912
18	2489348	49	2578797
19	2492234	50	2581682
20	2495120	51	2584566
21	2498006	52	2587450
22	2500892	53	2590334
23	2503778	54	2593218
24	2506664	55	2596103
25	2509550	56	2598988
26	2512436	57	2601872
27	2515322	58	2604756
28	2518208	59	2607640
29	2521096	60	2610524
30	2523980	14 Deg. Completed	



Searl says: the point . . . is to dwell upon the brightest parts in every prospect, to call off the thoughts when turning upon **disagreeable objects**; such as **STI**. And **strive** to be pleased with **present circumstances**. Searl adds: when he accept tough jobs as a **challenge** to his **ability** and wade into them with **joy** and **enthusiasm**, **miracles** can happen. Searl reminds you that we cannot change anything unless we accept it. Searl says; **condemnation** does not **liberate**, it **oppresses**.

Searl knowledge 1946-1968:

Table 16: chord 15 Degree:

Table17; chord 16 degree

•	Chord	•	Chord	•	Chord	•	Chord
0	2610524	31	2699901	0	2783462	31	2872731
1	2613408	32	2702784	1	2786343	32	2875610
2	2616292	33	2705666	2	2789224	33	2878489
3	2619176	34	2708548	3	2792104	34	2881368
4	2622060	35	2711430	4	2794984	35	2884246
5	2624943	36	2714312	5	2797864	36	2687124
6	2627826	37	2717194	6	2800744	37	2890002
7	2630710	38	2720076	7	2803624	38	2892880
8	2633594	39	2722957	8	2806504	39	2895759
9	2636478	40	2725838	9	2809384	40	2898638
10	2639362	41	2728720	10	2812264	41	2901516
11	2642245	42	2731602	11	2815144	42	2904394
12	2645128	43	2734484	12	2818024	43	2907272
13	2648011	44	2737366	13	2820904	44	2910150
14	2650894	45	2740247	14	2823784	45	2913028
15	2653777	46	2743128	15	2826664	46	2915906
16	2656660	47	2746009	16	2829544	47	2918783
17	2659543	48	2748890	17	2832423	48	2921660
18	2662426	49	2751772	18	2835302	49	2924538
19	2665309	50	2754654	19	2838182	50	2927416
20	2668192	51	2757535	20	2841062	51	2930293
21	2671075	52	2760416	21	2843941	52	2933170
22	2673958	53	2763297	22	2946820	53	2936048
23	2676841	54	2766178	23	2849699	54	2938926
24	2679724	55	2769059	24	2852578	55	2941803
25	2682606	56	2771940	25	2855457	56	2944680
26	2685488	57	2774820	26	2858336	57	2947557
27	2688371	58	2777700	27	2861215	58	2950434
28	2691254	59	2780581	28	2864094	59	2953311
29	2694136	60	2783462	29	2866973	60	2956188
30	2697018	15 deg. completed		30	2869852	16 Deg. Completed	



I'm watching you
watching me
watching you.
Beware your are not
in the nude!

Searl says: I have **accepted fear** as a part of life; **specifically** the fear of change. Searl states that he has gone ahead despite the pounding in his heart that says turn back. Searl says; to have that sense of ones' **intrinsic** worth which **constitutes self-respect** is potentially to have everything. What is your **authentic purpose** for being here? What's Searl purpose ought to know? Have his **dreams controlled** him to some **future destination**?

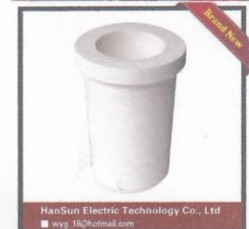
Searl knowledge 1946-1968:

Table 18: chord 17 Degree:

•	Chord	•	Chord
0	2956188	31	3045343
1	2959065	32	3048218
2	2961942	33	3051093
3	2964819	34	3053968
4	2967696	35	3056842
5	2970572	36	3059716
6	2973448	37	3062591
7	2976325	38	3065466
8	2979202	39	3068340
9	2982078	40	3071214
10	2984954	41	3074089
11	2987830	42	3076964
12	2990706	43	3079838
13	2993583	44	3082712
14	2996460	45	3085586
15	2999336	46	3088460
16	3002212	47	3091334
17	3005087	48	3094208
18	3007962	49	3097082
19	3010838	50	3099956
20	3013714	51	3102829
21	3016590	52	3105702
22	3019466	53	3108576
23	3022341	54	3111450
24	3025216	55	3114323
25	3028092	56	3117196
26	3030963	57	3120070
27	3033843	58	3122944
28	3036718	59	3125817
29	3039593	60	3128690
30	3042468	17 deg. completed	

Table19; chord 18 degree

•	Chord	•	Chord
0	3128690	31	3217723
1	3131563	32	3220594
2	3134436	33	3223464
3	3137309	34	3226334
4	3140182	35	3229205
5	3143054	36	3232076
6	3145926	37	3234947
7	3148799	38	3237818
8	3151672	39	3240688
9	3154544	40	3243558
10	3157416	41	3246429
11	3160289	42	3249300
12	3163162	43	3252170
13	3166034	44	3255040
14	3168906	45	3257910
15	3171778	46	3260780
16	3174650	47	3263650
17	3177522	48	3266520
18	3180394	49	3269389
19	3183266	50	3272258
20	3186138	51	3275128
21	3189009	52	3277998
22	3191880	53	3280867
23	3194752	54	3283736
24	3197624	55	3286606
25	3200495	56	3289476
26	3203366	57	3292345
27	3206238	58	3295214
28	3209110	59	3298083
29	3211981	60	3300952
30	3214852	18 Deg. Completed	



Searl says: that if he **advances confidently** in the **direction** of his **dream one** and **two**, and **endeavours** to live the life which he has **imagined**, he will meet with a **success unexpected** in common hours; unfortunate every time that Searl thought he had at last got **success** but along comes the **devil** to **kill** that **success**. Searl should be very happy now, **alas he is not**, the **S.E.G. dream one** should be here but it is not. What has stopped this **success** is **greed** and **ignorance**, until these **two mental states stop**; there will be no **S.E.G.**

Searl knowledge 1946-1968:

Table 20: chord 19 Degree:

•	Chord	•	Chord
0	3300952	31	3389857
1	3303821	32	3392724
2	3306690	33	3395590
3	3309559	34	3398456
4	3312428	35	3401323
5	3315296	36	3404190
6	3318164	37	3407056
7	3321033	38	3409922
8	3323902	39	3412789
9	3326770	40	3415656
10	3329638	41	3418522
11	3332506	42	3421388
12	3335374	43	3424254
13	3338243	44	3427120
14	3341112	45	3429985
15	3343979	46	3432850
16	3346846	47	3435716
17	3349714	48	3438582
18	3352582	49	3441447
19	3355450	50	3444312
20	3358318	51	3447178
21	3361185	52	3450044
22	3364052	53	3452909
23	3366920	54	3455774
24	3369788	55	3458639
25	3372655	56	3461504
26	3375522	57	3464369
27	3378389	58	3467234
28	3381256	59	3470099
29	3384123	60	3472964
30	3386990	19 deg. completed	

Table21; chord 20 degree

•	Chord	•	Chord
0	3472964	31	3561733
1	3475828	32	3564596
2	3478692	33	3567458
3	3481557	34	3570320
4	3484422	35	3573182
5	3487286	36	3576044
6	3490150	37	3578906
7	3493014	38	3581768
8	3495878	39	3584630
9	3498742	40	3587492
10	3501606	41	3590353
11	3504470	42	3593214
12	3507334	43	3596076
13	3510198	44	3598938
14	3513062	45	3601799
15	3515926	46	3604660
16	3518790	47	3607521
17	3521653	48	3610382
18	3524516	49	3613243
19	3527379	50	3616104
20	3530242	51	3618965
21	3533105	52	3621826
22	3535968	53	3624687
23	3538831	54	3627548
24	3541694	55	3630409
25	3544557	56	3633270
26	3547420	57	3636130
27	3550288	58	3638990
28	3553146	59	3641850
29	3556008	60	3644710
30	3558870	20 Deg. Completed	



Inventuors create the future and you will bring it into reality by using it but the inventor may never be known.

Searl says: search and he will find that at the **base** and **birth** of every **great business organization** was an **enthusiast**, a man/woman **consumed** with **earnestness** of **purpose**, with **confidence** in his/her powers, with **faith** in the **worthwhileness** of his/her **endeavours**. Searl ask: if this is **true** then where does he stand in this **completion**? Searl states to every problem there is an answer, some of which takes much longer to find. Given time we shall find them.

Searl knowledge 1946-1968:

Table 22: chord 21 Degree:

●	Chord	●	Chord
0	3644710	31	3733338
1	3647570	32	3736196
2	3650430	33	3739054
3	3653290	34	3741912
4	3656150	35	3744769
5	3659010	36	3747626
6	3661870	37	3750483
7	3664730	38	3753340
8	3667590	39	3756198
9	3670449	40	3759056
10	3673308	41	3761913
11	3676168	42	3764770
12	3679028	43	3767626
13	3681887	44	3770482
14	3684746	45	3773339
15	3687605	46	3776196
16	3690464	47	3779052
17	3693323	48	3781908
18	3696182	49	3784765
19	3699040	50	3787622
20	3701898	51	3790478
21	3704757	52	3793334
22	3707616	53	3796190
23	3710474	54	3799046
24	3713332	55	3801902
25	3716190	56	3804758
26	3719048	57	3807613
27	3721906	58	3810468
28	3724764	59	3813324
29	3727622	60	3816180
30	3730480	21 deg. completed	

Table 23; chord 22 degree

●	Chord	●	Chord
0	3816180	31	3904659
1	3819035	32	3907512
2	3821890	33	3910365
3	3824746	34	3913218
4	3827602	35	3916070
5	3830457	36	3918922
6	3833312	37	3921775
7	3836166	38	3924628
8	3839020	39	3927480
9	3841875	40	3930332
10	3844730	41	3933184
11	3847585	42	3936036
12	3850440	43	3938888
13	3853294	44	3941740
14	3856148	45	3944592
15	3859002	46	3947444
16	3861856	47	3950295
17	3864710	48	3953146
18	3867564	49	3955998
19	3870418	50	3958850
20	3873272	51	3961701
21	3876126	52	3964552
22	3878980	53	3967403
23	3881834	54	3970254
24	3884688	55	3973105
25	3887541	56	3975956
26	3890394	57	3978807
27	3893247	58	3981658
28	3896100	59	3984508
29	3898953	60	3987358
30	3901806	22 Deg. Completed	



China is here and
where are you?
Hiding in the bushes
trying to steal?



Searl knowledge 1946-1968:

Table 24: chord 23 Degree:

●	Chord	●	Chord
0	3987358	31	4075683
1	3990209	32	4078530
2	3993060	33	4081378
3	3995910	34	4084226
4	3998760	35	4087074
5	4001610	36	4089922
6	4004460	37	4092769
7	4007310	38	4095616
8	4010160	39	4098463
9	4013010	40	4101310
10	4015860	41	4104157
11	4018709	42	4107004
12	4021558	43	4109851
13	4024408	44	4112698
14	4027258	45	4115544
15	4030107	46	4118390
16	4032956	47	4121237
17	4035805	48	4124084
18	4038654	49	4126930
19	4041503	50	4129776
20	4044352	51	4132622
21	4047200	52	4135468
22	4050048	53	4138314
23	4052897	54	4141160
24	4055746	55	4144006
25	4058594	56	4146852
26	4061442	57	4149698
27	4064290	58	4152544
28	4067138	59	4155389
29	4069987	60	4158234
30	4072836	23 deg. completed	

Table 25; chord 24 degree

●	Chord	●	Chord
0	4158234	31	4246396
1	4161079	32	4249238
2	4163924	33	4252081
3	4166769	34	4254924
4	4169614	35	4257766
5	4172459	36	4260608
6	4175304	37	4263450
7	4178149	38	4266292
8	4180994	39	4269134
9	4183838	40	4271976
10	4186682	41	4274817
11	4189527	42	4277658
12	4192372	43	4280500
13	4195216	44	4283342
14	4198060	45	4286183
15	4200904	46	4289024
16	4203748	47	4291865
17	4206592	48	4294706
18	4209436	49	4297547
19	4212279	50	4300388
20	4215122	51	4303229
21	4217966	52	4306070
22	4220810	53	4308911
23	4223653	54	4311752
24	4226496	55	4314592
25	4229339	56	4317432
26	4232182	57	4320272
27	4235025	58	4323112
28	4237868	59	4325952
29	4240711	60	4328792
30	4243554	24 Deg. Completed	



思尔自然能 干净的能量
Searl Natural Energy - The Clean Energy



思尔自然能集团有限公司
Searl Energy Group Co., Ltd.

思尔自然能
环境保护者
零耗新能源
Searl Natural Energy -
A Environmental Protector,
New Energy With Zero Consumption

The future has yet to come, it relies on us to make it happen
We at SGT are working to achieve it. Good luck SGT!

Searl states that his **confidence** which he has in himself gives **birth** too much of that which we have in others. Searl says that he **measure himself** by his **best moments**, not by his **worst**. Searl says that we are too **prone** to **judge ourselves** by our **moments** of **despondency** and **depression**. Searl agrees that you should never bend your head. Searl says hold it high. **Look the world straight in the eye**. Searl says; only bend your bum for an **internal examination**, which can prove to be a useful **occupation**.

Searl knowledge 1946-1968:

Table 26: chord 25 Degree:

•	Chord	•	Chord
0	4328792	31	4416785
1	4331632	32	4419622
2	4334472	33	4422459
3	4337312	34	4425296
4	4340152	35	4428133
5	4342991	36	4431632
6	4345830	37	4434472
7	4348669	38	4437312
8	4351508	39	4440152
9	4354347	40	4442316
10	4357186	41	4445152
11	4360025	42	4447988
12	4362864	43	4450824
13	4365703	44	4453660
14	4368542	45	4456496
15	4371381	46	4459332
16	4374220	47	4462167
17	4377058	48	4465002
18	4379896	49	4467838
19	4382734	50	4470674
20	4385572	51	4473509
21	4388410	52	4476344
22	4391248	53	4479179
23	4394086	54	4482014
24	4396924	55	4484849
25	4399762	56	4487684
26	4402600	57	4490518
27	4405437	58	4493352
28	4408274	59	4496187
29	4411111	60	4499022
30	4413948	25 deg. completed	

Table 27; chord 26 Degree

•	Chord	•	Chord
0	4499022	31	4586839
1	4501856	32	4589670
2	4504690	33	4592501
3	4507524	34	4595332
4	4510358	35	4598163
5	4513192	36	4600994
6	4516026	37	4603825
7	4518859	38	4606656
8	4521692	39	4609487
9	4524526	40	4612318
10	4527360	41	4615148
11	4530193	42	4617978
12	4533026	43	4620808
13	4535859	44	4623638
14	4538692	45	4626468
15	4541525	46	4629298
16	4544358	47	4632128
17	4547191	48	4634958
18	4550024	49	4637788
19	4552856	50	4640618
20	4555688	51	4643447
21	4558521	52	4646276
22	4561354	53	4649105
23	4564186	54	4651934
24	4567018	55	4654763
25	4569850	56	4657592
26	4572682	57	4660421
27	4575513	58	4663250
28	4578344	59	4666079
29	4581176	60	4668908
30	4584008	26 Deg. Completed	



Searl says that no one can really pull you up very high; you lose your grip on the rope. But on your own two feet you can climb mountains. Searl reminds you that men are made **stronger** on **realization** that the helping hand they need is at the end of their own arm. Searl reminds you that the best things in life must come by effort from within, not by gifts from the outside. Searl says that every man/woman is their own ancestor, and every man/woman his/her own heir. He/she devises his/her own future and **inherits** his/her own past.

Searl knowledge 1946-1968:

Table 28: chord 27 Degree:

Table 29: chord 28 Degree

•	Chord	•	Chord	•	Chord	•	Chord
0	4668908	31	4756543	0	4838438	31	4925885
1	4671736	32	4759368	1	4841260	32	4928704
2	4674564	33	4762194	2	4844082	33	4931523
3	4677392	34	4765020	3	4846904	34	4934342
4	4680220	35	4767845	4	4849726	35	4937161
5	4683048	36	4770670	5	4852548	36	4939980
6	4685876	37	4773494	6	4855370	37	4942799
7	4688704	38	4776318	7	4858192	38	4945618
8	4691532	39	4779143	8	4861014	39	4948436
9	4694360	40	4781968	9	4863836	40	4951254
10	4697188	41	4784792	10	4866658	41	4954072
11	4700015	42	4787616	11	4869479	42	4956890
12	4702842	43	4790441	12	4872300	43	4959708
13	4705669	44	4793266	13	4875121	44	4962526
14	4708496	45	4796090	14	4877942	45	4965344
15	4711323	46	4798914	15	4880763	46	4968162
16	4714150	47	4801737	16	4883584	47	4970980
17	4716977	48	4804560	17	4886405	48	4973798
18	4719804	49	4807384	18	4889226	49	4976615
19	4722631	50	4810208	19	4892046	50	4979432
20	4725458	51	4813031	20	4894866	51	4982249
21	4728284	52	4815854	21	4897687	52	4985066
22	4731110	53	4818678	22	4900508	53	4987883
23	4733936	54	4821502	23	4903328	54	4990700
24	4736762	55	4824325	24	4906148	55	4993517
25	4739588	56	4827148	25	4908968	56	4996334
26	4742414	57	4829970	26	4911788	57	4999151
27	4745240	58	4832792	27	4914607	58	5001968
28	4748066	59	4835615	28	4917426	59	5004784
29	4750892	60	4838438	29	4920246	60	5007600
30	4753718	27 deg. completed		30	4923066	28 Deg. Completed	



Searl Technology covers many subjects, which without them the **S.E.G.** would be **impossible** to be achieved. It is extremely difficult to say what most **important** subject is. There is no doubt in my mind that the **Law of the Squares** is a vital **subject** to understand, before starting out on making an **S.E.G.** One may say that **Linear Algebra** topics are more important, if so than the order and coverage of topics must be chosen for **maximum efficiency, effectiveness, and balance**. Otherwise it would be a waste of time and effort.

Searl knowledge 1946-1968:

Table 30: chord 29 Degree:

•	Chord	•	Chord
0	5007600	31	5094851
1	5010416	32	5097664
2	5013232	33	5100477
3	5016048	34	5103290
4	5018864	35	5106103
5	5021680	36	5108916
6	5024496	37	5111728
7	5027311	38	5114540
8	5030126	39	5117352
9	5032942	40	5120164
10	5035758	41	5122976
11	5038573	42	5125788
12	5041388	43	5128599
13	5044202	44	5131410
14	5047016	45	5134222
15	5049831	46	5137034
16	5052646	47	5139845
17	5055460	48	5142656
18	5058274	49	5145467
19	5061089	50	5148278
20	5063904	51	5151089
21	5066718	52	5153900
22	5069532	53	5156710
23	5072345	54	5159520
24	5075158	55	5162330
25	5077972	56	5165140
26	5080786	57	5167951
27	5083599	58	5170762
28	5086412	59	5173571
29	5089225	60	5176380
30	5092038	29 deg. completed	

Table31; chord 30 Degree

•	Chord	•	Chord
0	5176380	31	5263430
1	5179190	32	5266236
2	5182000	33	5269043
3	5184810	34	5271850
4	5187620	35	5274655
5	5190429	36	5277460
6	5193238	37	5280266
7	5196047	38	5283072
8	5198856	39	5285878
9	5201665	40	5288684
10	5204474	41	5291489
11	5207282	42	5294294
12	5210090	43	5297099
13	5212898	44	5299904
14	5215706	45	5302709
15	5218515	46	5305514
16	5221324	47	5308318
17	5224131	48	5311122
18	5226938	49	5313927
19	5229746	50	5316732
20	5232554	51	5319536
21	5235362	52	5322340
22	5238170	53	5325143
23	5240977	54	5327946
24	5243784	55	5330750
25	5246591	56	5333554
26	5249398	57	5336358
27	5252205	58	5339162
28	5255012	59	5341965
29	5257818	60	5344768
30	5260624	30 Deg. Completed	



Watch out I may
come your way any
day now.

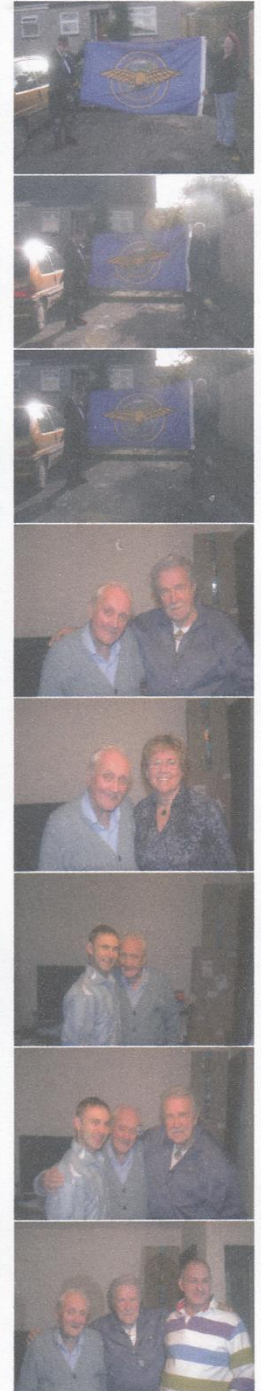
Searl says for an example, he present the main ideas of **vector spaces** and **bases**, beginning with a brief look at \mathbf{R}^2 and \mathbf{R}^n and leading into the **vector space concept** as a natural extension of these familiar examples. Searl states: this material is often the most difficult for students, Searl says; that my approach to **linear independence**, **span**, **basis**, and **dimension** is carefully explained and hopefully well illustrated by examples. Well at least Searl hopes this will be the case. Searl says that the **S.E.G.** is not the easy thing to explain; and the **I-G-V** is even worst to explain; nevertheless Searl will try to explain them.

Searl knowledge 1946-1968:

Table 32: chord 31 Degree:

Table33; chord 32 Degree

•	Chord	•	Chord	•	Chord	•	Chord
0	5344768	31	5431608	0	5512748	31	5599373
1	5347571	32	5434408	1	5515544	32	5602166
2	5350374	33	5437207	2	5518340	33	5604958
3	5353176	34	5440006	3	5521135	34	5607750
4	5355978	35	5442805	4	5523930	35	5610542
5	5358781	36	5445604	5	5526726	36	5613334
6	5361584	37	5448403	6	5529522	37	5616126
7	5364386	38	5451202	7	5532317	38	5618918
8	5367188	39	5454001	8	5535112	39	5621710
9	5369990	40	5456800	9	5537908	40	5624502
10	5372792	41	5459598	10	5540704	41	5627293
11	5375594	42	5462396	11	5543499	42	5630084
12	5378396	43	5465195	12	5546294	43	5632875
13	5381198	44	5467994	13	5549088	44	5635666
14	5384000	45	5470791	14	5551882	45	5638457
15	5386801	46	5473588	15	5554677	46	5641248
16	5389602	47	5476386	16	5557472	47	5644039
17	5392403	48	5479184	17	5560266	48	5646830
18	5395204	49	5481982	18	5563060	49	5649620
19	5398005	50	5484780	19	5565854	50	5652410
20	5400806	51	5487577	20	5568648	51	5655200
21	5403607	52	5490374	21	5571442	52	5657990
22	5406408	53	5493171	22	5574236	53	5660780
23	5409208	54	5495968	23	5577029	54	5663570
24	5412008	55	5498765	24	5579822	55	5666360
25	5414809	56	5501562	25	5582615	56	5669150
26	5417610	57	5504358	26	5585408	57	5671939
27	5420410	58	5507154	27	5588201	58	5674728
28	5423210	59	5509951	28	5590994	59	5677517
29	5426009	60	5512748	29	5593787	60	5680306
30	5428808	31 deg. completed		30	5596580	32 Deg. Completed	



I shall be coming soon, be ready for the end of success.

Searl points out that the **eigenvalue** problem is developed in detail in this document, But Searl warns you that he will lay an **intuitive foundation** for students who wish to get a post in **Searl Global Technologies** sectors; earlier within this document. In addition, the newly revised section provides an early optional introduction to **eigenvalues** that Searl choose to include or omit in future documents at his discretion. As the **S.E.G** and the **I-G-V** belongs to the domain of **precision engineering**, means that the **mathematics** can be complex.

Searl knowledge 1946-1968:

Table 34: chord 33 Degree:

•	Chord	•	Chord
0	5680306	31	5766711
1	5683095	32	5769496
2	5685884	33	5772281
3	5688673	34	5775066
4	5691462	35	5777851
5	5694251	36	5780636
6	5697040	37	5783421
7	5699828	38	5786206
8	5702616	39	5788990
9	5705404	40	5791774
10	5708192	41	5794558
11	5710980	42	5797342
12	5713768	43	5800126
13	5716555	44	5802910
14	5719342	45	5805694
15	5722129	46	5808478
16	5724916	47	5811261
17	5727704	48	5814044
18	5730492	49	5816827
19	5733278	50	5819610
20	5736064	51	5822393
21	5738851	52	5825176
22	5741638	53	5827959
23	5744424	54	5830742
24	5747210	55	5833524
25	5749996	56	5836306
26	5752782	57	5839088
27	5755568	58	5841870
28	5758354	59	5844652
29	5761140	60	5847434
30	5763926	33 deg. completed	

Table 35; chord 34 Degree

•	Chord	•	Chord
0	5847434	31	5933610
1	5850216	32	5936388
2	5852998	33	5939165
3	5855779	34	5941942
4	5858560	35	5944720
5	5861341	36	5947498
6	5864122	37	5950275
7	5866903	38	5952998
8	5869684	39	5955829
9	5872465	40	5958606
10	5875246	41	5961382
11	5878026	42	5964158
12	5880806	43	5966935
13	5883586	44	5969712
14	5886366	45	5972488
15	5889146	46	5975264
16	5891926	47	5978040
17	5894706	48	5980816
18	5897486	49	5983592
19	5900265	50	5986368
20	5903044	51	5989143
21	5905824	52	5991918
22	5908604	53	5994693
23	5911383	54	5997468
24	5914162	55	6000243
25	5916940	56	6003018
26	5919718	57	6005793
27	5922497	58	6008568
28	5925276	59	6011342
29	5928054	60	6014116
30	5930832	34 Deg. Completed	



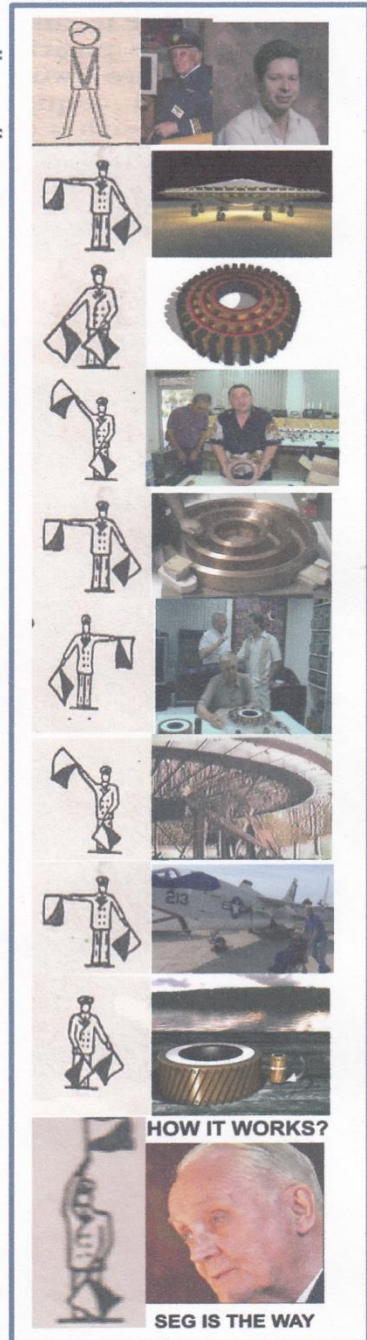
That day will come
when all will see our
success in energy!

Searl states: every effort has been taken to present **theorems** and their **proofs** using language that is both clear to students training for posts within the **Searl Global Technologies** which is **mathematically** precise. **Proofs** of **theorems** will be treated in several ways within this document. When it is **pedagogically** sound to do so, Searl will present **proofs** be presented in complete detail, unless it comes under **confidential material**. Which Searl hope that you all will accept that issue – it is a very new window in **science** and **technology**, as Searl do not wish **cowboys** to spoil **success** by **greed** and **ignorance**.

Table 36: Chord 35 Degree:

Table 37: Chord 36 Degree:

• Chord	• Chord	• Chord	• Chord
0 6014116	31 6100056	0 6180340	31 6266038
1 6016890	32 6102826	1 6183106	32 6268800
2 6019664	33 6105596	2 6185872	33 6271563
3 6022438	34 6108366	3 6188638	34 6274326
4 6025212	35 6111136	4 6191404	35 6277088
5 6027986	36 6113906	5 6194170	36 6279850
6 6030760	37 6116676	6 6196936	37 6282611
7 6033533	38 6119446	7 6199702	38 6285372
8 6036306	39 6122215	8 6202468	39 6288134
9 6039079	40 6124984	9 6205233	40 6290896
10 6041852	41 6127753	10 6207998	41 6293657
11 6044625	42 6130552	11 6210763	42 6296418
12 6047398	43 6133291	12 6213528	43 6299178
13 6050170	44 6136060	13 6216293	44 6301938
14 6052942	45 6138828	14 6219058	45 6304699
15 6055715	46 6141596	15 6221823	46 6307460
16 6058488	47 6144364	16 6224588	47 6310220
17 6061260	48 6147132	17 6227352	48 6312980
18 6064032	49 6149900	18 6230116	49 6315740
19 6066804	50 6152668	19 6232880	50 6318500
20 6069576	51 6155436	20 6235644	51 6321260
21 6072347	52 6158204	21 6238408	52 6324020
22 6075118	53 6160971	22 6241172	53 6326780
23 6077890	54 6163738	23 6243935	54 6329540
24 6080662	55 6166505	24 6246698	55 6332299
25 6083433	56 6169272	25 6249461	56 6335058
26 6086204	57 6172039	26 6252224	57 6337817
27 6088974	58 6174806	27 6254987	58 6340576
28 6091744	59 6177573	28 6257750	59 6343335
29 6094515	60 6180340	29 6260513	60 6346094
30 6097286 35 deg. Completed.		30 6263276 36 Deg. Completed.	



Searl remind you what it takes to set up **production** First **the Production Function: The Relationship of Production planning to other systems** which shall be involved within **SEARL GLOBAL TECHNOLOGIES** are **financial aspects of production. Marketing and production**, Searl is not going to let you get away from the **mathematics** side which is involved. There is the **manpower planning** which today **Friday 7th August 2015** has been part of our meeting with a company plus production. **Legal issues** associated with production, which is not free. Searl say then there are the **rights of individual**. This is the **major problem Searl** has been based upon his **work experience** in the UK. Which had he stayed on as a head foreman; there would have been some workers given their marching orders.

That is the class of **workforce Searl** don't require. Do Searl use **robotic** and **automation systems** as Searl will be explaining within this document; or set up first, in **poor countries** where a **workforce** is glad of a job. Today Searl has been looking into this problem and may have started search for a suitable place; like the **Philippines** as a possible choice. Wherever the **S.E.G.s** is **manufactured** there will be no **free samples** unfortunate.

Table 38: Chord 37 Degree:

Table 39: Chord 38 Degree:

• Chord		• Chord		• Chord		• Chord	
0	6346094	31	6431544	0	6511364	31	6596559
1	6348852	32	6434298	1	6514114	32	6599306
2	6351610	33	6437052	2	6516864	33	6602051
3	6354368	34	6439806	3	6519614	34	6604796
4	6357126	35	6442560	4	6522364	35	6607542
5	6359884	36	6445314	5	6525114	36	6610288
6	6362642	37	6448068	6	6527864	37	6613033
7	6365400	38	6450822	7	6530613	38	6615778
8	6368158	39	6453575	8	6533362	39	6618523
9	6370915	40	6456328	9	6536111	40	6621268
10	6373672	41	6459081	10	6538860	41	6624013
11	6376429	42	6461834	11	6541609	42	6626758
12	6379186	43	6464587	12	6544358	43	6629502
13	6381943	44	6467340	13	6547107	44	6632246
14	6384700	45	6470092	14	6549856	45	6634990
15	6387456	46	6472844	15	6552604	46	6637734
16	6390212	47	6475596	16	6555352	47	6640478
17	6392969	48	6478348	17	6558100	48	6643222
18	6395726	49	6481100	18	6560848	49	6645966
19	6398482	50	6483852	19	6563596	50	6648710
20	6401238	51	6486604	20	6566344	51	6651453
21	6403993	52	6489356	21	6569091	52	6654196
22	6406748	53	6492107	22	6571838	53	6656939
23	6409504	54	6494858	23	6574585	54	6659682
24	6412260	55	6497609	24	6577332	55	6662425
25	6415015	56	6500360	25	6580079	56	6665168
26	6417770	57	6503111	26	6582826	57	6667910
27	6420525	58	6505862	27	6585573	58	6670652
28	6423280	59	6508613	28	6588320	59	6673395
29	6426035	60	6511364	29	6591066	60	6676138
30	6428790	37 deg. Completed.		30	6593812	38 Deg. Completed	



Searl remind you what it takes to set up **production: Location of the firm:** Searl states that **Location options**. Not forgetting **Sources of finance**, and **Governmental assistance** and **constraints**. Searl says that there are **Local authority regulations**. Searl reminds you that there is **Physical** and **operational factors** which will need to be considered.

Searl reminds you that there are **Product Development** and **Process Planning**: Searl confirms that a product is being developing in **San Diego, California, U.S.A**. But process planning has not yet started. Searl says that **Product life-cycle, Product planning. Make or buy decisions, Product technical specifications. Process planning. Product design and development**, and Searl confirm that **product design and development** is slowly progressing. Searl expect that the product will have a **50 year life cycle**. Searl honestly say that lots of **planning** for **mass production** has yet to be undertaken, which requires a site first so its space can be put to **maximum** use. Searl remind us that **statistics** will play a critical part of the start-up process and grow as we expand but then experience will play a part to ease the growth pains. A good team is critical. Will Searl find them; that is the question, in 2003 Richard Branson doubted it possible.

Searl knowledge 1946-1968:

Table 40: Chord 39 Degree:

•	Chord	•	Chord
0	6676138	31	6761072
1	6678879	32	6763810
2	6681620	33	6766547
3	6684362	34	6769284
4	6687104	35	6772021
5	6689845	36	6774758
6	6692586	37	6777495
7	6695327	38	6780232
8	6698068	39	6782968
9	6700809	40	6785704
10	6703550	41	6788441
11	6706291	42	6791178
12	6709032	43	6793914
13	6711772	44	6796650
14	6714512	45	6799385
15	6717252	46	6802120
16	6719992	47	6804856
17	6722731	48	6807592
18	6725470	49	6810327
19	6728210	50	6813062
20	6730950	51	6815796
21	6733689	52	6818530
22	6736428	53	6821265
23	6739167	54	6824000
24	6741906	55	6826734
25	6744644	56	6829468
26	6747382	57	6832202
27	6750120	58	6834936
28	6752858	59	6837669
29	6755596	60	6840402
30	6758334	39 deg. Completed.	

Table 41: Chord 40 Degree:

•	Chord	•	Chord
0	6840402	31	6925071
1	6843136	32	6927800
2	6845870	33	6930528
3	6848603	34	6933256
4	6851336	35	6935985
5	6854068	36	6938714
6	6856800	37	6941442
7	6859533	38	6944170
8	6862266	39	6946897
9	6864998	40	6949624
10	6867730	41	6952352
11	6870462	42	6955080
12	6873194	43	6957807
13	6875926	44	6960534
14	6878658	45	6963261
15	6881389	46	6965988
16	6884120	47	6968714
17	6886851	48	6971440
18	6889582	49	6974167
19	6892312	50	6976894
20	6895042	51	6979620
21	6897773	52	6982346
22	6900504	53	6985071
23	6903234	54	6987796
24	6905964	55	6990522
25	6908694	56	6993248
26	6911424	57	6995973
27	6914153	58	6998698
28	6916882	59	7001423
29	6919612	60	7004148
30	6922342	40 Deg. Completed	



Searl remind you what it takes to set up **production: Production Methods: Jobbing production: Batch Production: Flow Production: Layout** of facilities: Layout by process: Layout by product: Materials handling. Searl says that is not all that **SEARL GLOBAL TECHNOLOGIES** shall have to be responsible for like:

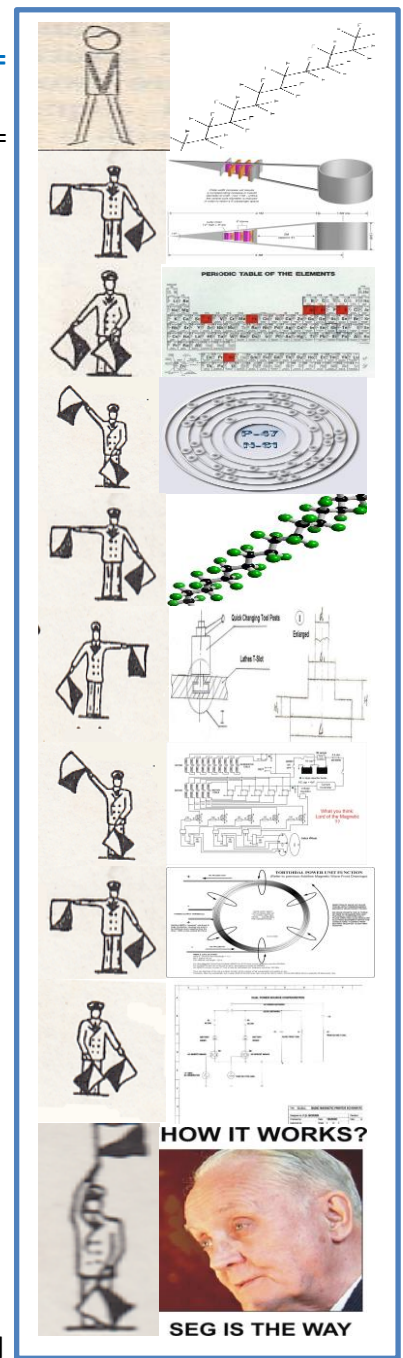
People and Production: Searl say things like **Personnel policy: Legal obligations: Social responsibilities: Training needs: Payment systems: Industrial relations,** Searl say if you think that is all they need to cover, sorry to say again you are wrong.

Quality Control: Supplier quality assurance: Organizing quality control: Sampling inspection schemes, which Searl has done for 31 years. The **operating characteristic curve: Process control: Control charts for sample means and ranges.** Searl states that is not all, more to come, these 2 sections so far control the main operation of the company, which actually produce the products. Searl point out an international company covering many technologies in production must have the skill staff to cover all these issues which Searl is naming within this document.

Table 42: Chord 41 Degree:

Table 43: Chord 42 Degree:

• Chord		• Chord		• Chord		• Chord	
0	7004148	31	7088540	0	7167358	31	7251471
1	7006872	32	7091260	1	7170074	32	7254182
2	7009596	33	7093980	2	7172790	33	7256893
3	7012321	34	7096700	3	7175505	34	7259604
4	7015046	35	7099420	4	7178220	35	7262314
5	7017769	36	7102140	5	7180935	36	7265024
6	7020492	37	7104859	6	7183650	37	7267734
7	7023216	38	7107578	7	7186365	38	7270444
8	7025940	39	7110297	8	7189080	39	7273154
9	7028663	40	7113016	9	7191794	40	7275864
10	7031386	41	7115734	10	7194508	41	7278573
11	7034109	42	7118452	11	7197222	42	7281282
12	7036832	43	7121170	12	7199936	43	7283992
13	7039555	44	7123888	13	7202650	44	7286702
14	7042278	45	7126606	14	7205364	45	7289410
15	7045001	46	7129324	15	7208077	46	7292118
16	7047724	47	7132042	16	7210790	47	7294827
17	7050446	48	7134760	17	7213503	48	7297536
18	7053168	49	7137477	18	7216216	49	7300244
19	7055890	50	7140194	19	7218929	50	7302952
20	7058612	51	7142911	20	7221642	51	7305660
21	7061333	52	7145628	21	7224355	52	7308368
22	7064054	53	7148345	22	7227068	53	7311075
23	7066775	54	7151062	23	7229780	54	7313782
24	7069496	55	7153779	24	7232492	55	7316490
25	7072217	56	7156496	25	7235204	56	7319198
26	7074938	57	7159212	26	7237916	57	7321905
27	7077659	58	7161928	27	7240627	58	7324612
28	7080380	59	7164643	28	7243338	59	7327318
29	7083100	60	7167358	29	7246049	60	7330024
30	7085820 41 deg. Completed.			30	7248760 42 Deg. Completed		



Searl say that there is the **CRITICAL PATH ANALYSIS**: which includes **Arrow diagrams: Logic of the network: Analysing a network: Resource scheduling: Project cost appraisal**. Again Searl remark that it still fails to cover every requirement. So what are they?

WORK STUDY: Method study: Work measurement: Time study which Searl has undertaken for companies, **application** of **standard times** to **operator performance** and **capacity planning**. Searl states that there is the **PRODUCTION CONTROL:** Which are: **Production control activities:** **Capacity planning:** **Loading:** **Scheduling:** **Material requirements planning.** So far Searl has been talking about just two sections of **SEARL GLOBAL TECHNOLOGIES** must create to perform, and what they must has not yet been completed here, there still is a small more to cover to become experts and professionals within these units.

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Searl knowledge 1946-1968:

Table 44: Chord 43 Degree:

• Chord	• Chord	• Chord	• Chord
0 7330024	31 7413850	0 7492132	31 7575664
1 7332731	32 7416552	1 7494829	32 7578356
2 7335438	33 7419253	2 7497526	33 7581048
3 7338144	34 7421954	3 7500222	34 7583740
4 7340850	35 7424655	4 7502918	35 7586432
5 7343555	36 7427356	5 7505615	36 7589124
6 7346260	37 7430057	6 7508312	37 7591815
7 7348966	38 7432758	7 7511008	38 7594506
8 7351672	39 7435458	8 7513704	39 7597197
9 7354377	40 7438158	9 7516399	40 7599888
10 7357082	41 7440859	10 7519094	41 7602578
11 7359787	42 7443560	11 7521790	42 7605268
12 7362492	43 7446259	12 7524486	43 7607958
13 7365196	44 7448958	13 7527181	44 7610648
14 7367900	45 7451658	14 7529876	45 7613338
15 7370604	46 7454358	15 7532570	46 7616028
16 7373308	47 7457057	16 7535264	47 7618718
17 7376012	48 7459756	17 7537959	48 7621408
18 7378716	49 7462455	18 7540654	49 7624097
19 7381419	50 7465154	19 7543348	50 7626786
20 7384122	51 7467852	20 7546042	51 7629475
21 7386826	52 7470550	21 7548735	52 7632164
22 7389530	53 7473248	22 7551428	53 7634852
23 7392233	54 7475946	23 7554122	54 7637540
24 7394936	55 7478644	24 7556816	55 7640229
25 7397638	56 7481342	25 7559509	56 7642918
26 7400340	57 7484040	26 7562202	57 7645606
27 7403042	58 7486738	27 7564895	58 7648294
28 7405744	59 7489435	28 7567588	59 7650981
29 7408446	60 7492132	29 7570280	60 7653668
30 7411148 43 deg. Completed.		30 7572972 44 Deg. Completed	



Searl remind you what it takes to set up **production**: Searl will continue what **SEARL GLOBAL**

TECHNOLOGIES will have to deal with to get the production side set up and organised: **Stock control**:

Associated costs: Inventory policies: Re-order level: Economic order quantity: Calculation of safety stock level: Classification of stock items.

Searl say that is not the end of **SEARL GLOBAL TECHNOLOGIES** responsibility to the **product units** throughout the world that will be. Searl says that there are: **Computers** and **Decision-making**:

Microprocessors: Development of software packages: Applications in decision-making. This is the **basic requirements** which Searl will explain soon in **reference** to **Production units**.

Then there is the **Statistics Department** responsibility to deal with, such as: **Data: Collection** and **representation: Data presentation**. Searl says add to these: **Averages: The arithmetic mean: The geometric mean: The median: The mode: Index numbers: Moving averages**. Searl says that is not all. There is the **Dispersion: Range: Mean deviation: Quartiles: Standard deviation: Normal distribution**.

searl knowledge 1946-1947:

V = start value of the square.

LV = line value

FV = frequency value

CV = Centre value

S1 = Shell 1

S2 = shell 2

C4 = four corners value

S- = energy value negative

S+ = energy value positive

Energy value relates stationary state

60	25	50
35	45	55
40	65	30

There are two modes to work a square one I call **SPACE FRAME** the other the **TIME FRAME** which is shown above. There are only **3 mathematical systems** used by nature. All **odd numbers** belong to **group one**. Where by all **even numbers** are **divided equal** in **two design groups**.

First **even number** is a **group 2** and the other half is a **group 3** as witnessed in above sample of a **group one** there is a **single bar cross**. **Group 2** has **no cross** at all. But **group 3** has a **double bar cross**, which makes it hard to work out. **Group ones** will pair with any even number to create pairs at higher energy levels. Every square of a value set has its own **DNA structure** by which all squares in that set can quickly be worked out.

For example a **square 4** takes me from **12** to **17 seconds** to work out, as that class is the main one used for design of the **Searl Effect Generator S.E.G.** I have not demonstrated a **group one** in public as its only task is to excite the **group 2** in its **functions**. The **matrix** of **square 4** belongs to the **group two** series of **matrixes**.

GROUPS:	PAIRING:	-	SEARL PAIRS:				
ONES	TWO		THREE	≡	ONES	TWO	THREE
3	4			≡	29		30
5			6	≡	31	32	
7	8			≡	33		34
9			10	≡	35	36	
11	12			≡	37		38
13			14	≡	39	40	
15	16			≡	41		42
17			18	≡	43	44	
19	20			≡	45		46
21			22	≡	47	48	
23	24			≡	49		50
25			26	≡	51	52	
27	28			≡	53		54



I'm here so beware!

Searl knowledge 1965-1967:

GROUPS:	PAIRING:	-	SEARL PAIRS:			
ONES	TWO		THREE	≡	ONES	TWO THREE
55	56			≡	99	100
57			58	≡	101	102
59	60			≡	103	104
61			62	≡	105	106
63	64			≡	107	108
65			66	≡	109	110
67	68			≡	111	112
69			70	≡	113	114
71	72			≡	115	116
73			74	≡	117	118
75	76			≡	119	120
77			78	≡	121	122
79	80			≡	123	124
81			82	≡	125	126
83	84			≡	127	128
85			86	≡	129	130
87	88			≡	131	132
89			90	≡	133	134
91	92			≡	135	136
93			94	≡	137	138
95	96			≡	139	140
97			98	≡	141	142

Searl knowledge 1946-1947:

The square as Searl terms it. Is really one face of a cube, being the best face to create the **SEARL EFFECT GENERATOR (S.E.G.)** from: The squares are nothing more than a **Binary Code System**: The pairing table shows this clearly and Searl research the squares in **1946** and produced these results as shown in this document. Over the years Searl have released some of those findings in his books and newsletters. In this document you see the full results in one unit.

Over the years and more so from **2012**, expert's asked: how do the squares help to make the **S.E.G**? Searl reply, there is no **mathematical system** which can solve the quick route for a new project on energy, then the **law** of the **squares**. Since **1968** hundreds of so call **experts** have spent millions to try and copy Searl work, and still many think that they can make it quick and cheap. Searl tell them that there is no **magnetizer** yet available on the market at this date **Saturday 10th August 2014** by which you can make it. As it requires a running wave that creates a system like a river in principle.

Another problem: in very recent years: have turned up by an engineer from Boeing which Searl spent over two hours explaining with the **S.E.G.** mock up how it function: he wanted to know where the fuel goes in after telling him – also the center of the unit: well he could use either cow – horse; dog or his own shit but I prefer leaving it empty to avoid the smell.

Engineers of today are no different to those of the time when the cycle was invented, you cannot ride a two wheel bike you need four wheels. Well it's a good job he never took their advice as was clearly on display of thousands of bikes, scooters, motor bikes in **Amsterdam** in **August 2014** which Searl have never seen such likes anywhere else in the world.

All the great inventions here today were impossible in the past, maybe due to lack of equipment and tools for the task, but the **concepts** were **correct**. Likewise in **earlier 18th century** lot of the effects of the **S.E.G.** was known and being **demonstrated** in **musical halls** and **universities** and **late 18th century film studios** were including some of these effects in movies of the day for excitement. They were unable to put it together as a motor as the **equipment** and **materials** were not available at that time, it took another **two hundred years** for that to be possible to achieve.

First: a **rare earth** had to be **discovered**, which did not appear until **1880 – 85** termed: **NEODYMIUM Nd 60**.

Second a man name **Albert Einstein 1879 - 1955** had to arrive, who worked out the energy stored in an atom. But there was still another problem a person who could put such a motor together but that had to wait until the **second of May 1932**. Unfortunate it would be **August 1946** before this man made a start on such a device. He had no knowledge what had been proved already.

Searl knowledge 1946-1950;

Searl points out that **statistics** currently deals with the **theoretical development** and application of methods suitable to **numerical measurements**. An interesting issue comes to mind; is the law of the squares also acts in a similar manner as **statistics** operates. As it both saves time and cost. Let us take a closer look at the squares; specially the first pair.

32	25	30	30	36	27	37
27	29	31	39	25	34	32
28	33	26	33	31	40	26
			28	38	29	35



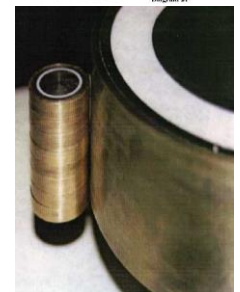
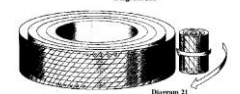
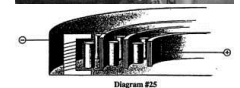
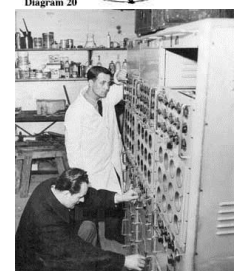
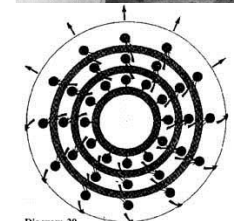
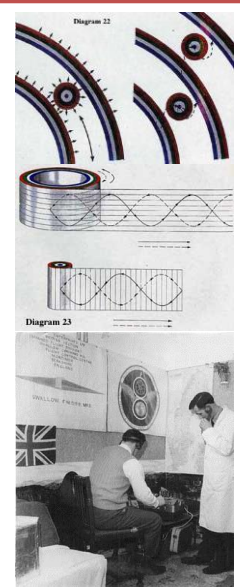
Searl states that it is clear that all odd numbers have a central cross in its construction. Notice that the horizontal bar steps from left to right in steps of two. Whereby, the vertical bar steps by four from top to bottom. Total both bars = six which fits the game of hopscotch absolute. Also clearly shows odd numbers are of lower energy than the even numbers. All odd numbers are group ones and, act like an input booster to generate more energy from both group twos and group threes systems. **Group ones** will always bond with either a **group two** or a **group three**; but never a **group two** and **group three** at the same time. But it could by moving up a step above the lower set in the same **time frame**.

In other words; Searl can sit on a chair, by doing so, you cannot sit on that chair. But: if another chair sits higher and above Searl, which you can sit on. Then you are sharing Searl **time frame** in a **different space frame**. Thereby no natural law has been broken. Agree that you could sit on a chair in another room, whereby you are in a **different space**; from but still within Searl **time frame**. Searl accept that many of readers will never understand this issue due to their education background. Nevertheless Searl have included these details here for all who can understand this logic.

Can Searl state that the law of the squares are just another form of **statistics**? Is that game termed **hopscotch** is purely another form of **statistics**? Because in Searl case it gives information as to where to go for the product you wish to create. Searl have to admit that at this time he have no idea when or who invented the game **hopscotch**. Whoever it was must have worked out how to install **data** within a game which would stand the test of time. Until the right person uncover it. The problem is that you will never find what you want to find unless you know what you are looking for, and then you may not see it because you are looking at it straight in the face.

One thing is certain that no one can invent an entirely new product without the use of **mathematics** if it is intended to be massed produced for the marketplace. Searl accept that if you are not concern how the finish product looks you could knock it together without using **mathematics**. However, the Searl group of companies are concern about the looks of their products as the most important subject to the customer. Searl feels that looks and price are critical issues for the marketplace. A company can only exist as long as their products are brought by the public – if not the company closes down.

Let us take a closer look at the squares constructions:

[illegible]

Searl knowledge 1946-1950:

SQUARES PAIRING:

43^2	=	1849 cells	= 85	cells different	which is a group one class
44^2	=	1936 cells	= 87	cells different	which is a group two class
45^2	=	2025 cells	= 89	cells different	which is a group one class
46^2	=	2116 cells	= 91	cells different	which is a group three class
47^2	=	2209 cells	= 93	cells different	which is a group one class
48^2	=	2304 cells	= 95	cells different	which is a group two class
49^2	=	2401 cells	= 97	cells different	which is a group one class
50^2	=	2500 cells	= 99	cells different	which is a group three class
51^2	=	2601 cells	= 101	cells different	which is a group one class
52^2	=	2704 cells	= 103	cells different	which is a group two class
53^2	=	2809 cells	= 105	cells different	which is a group one class
54^2	=	2916 cells	= 107	cells different	which is a group three class
55^2	=	3025 cells	= 109	cells different	which is a group one class
56^2	=	3136 cells	= 111	cells different	which is a group two class
57^2	=	3249 cells	= 113	cells different	which is a group one class
58^2	=	3364 cells	= 115	cells different	which is a group three class
59^2	=	3481 cells	= 117	cells different	which is a group one class
60^2	=	3600 cells	= 119	cells different	which is a group two class
61^2	=	3721 cells	= 121	cells different	which is a group one class
62^2	=	3844 cells	= 123	cells different	which is a group three class
63^2	=	3969 cells	= 125	cells different	which is a group one class
64^2	=	4096 cells	= 127	cells different	which is a group two class
65^2	=	4225 cells	= 129	cells different	which is a group one class
66^2	=	4356 cells	= 131	cells different	which is a group three class
67^2	=	4489 cells	= 133	cells different	which is a group one class
68^2	=	4624 cells	= 135	cells different	which is a group two class
69^2	=	4761 cells	= 137	cells different	which is a group one class
70^2	=	4900 cells	= 139	cells different	which is a group three class
71^2	=	5041 cells	= 141	cells different	which is a group one class
72^2	=	5184 cells	= 143	cells different	which is a group two class
73^2	=	5329 cells	= 145	cells different	which is a group one class
74^2	=	5476 cells	= 147	cells different	which is a group three class
75^2	=	5625 cells	= 149	cells different	which is a group one class
76^2	=	5776 cells	= 151	cells different	which is a group two class
77^2	=	5929 cells	= 153	cells different	which is a group one class
78^2	=	6084 cells	= 155	cells different	which is a group three class
79^2	=	6241 cells	= 157	cells different	which is a group one class
80^2	=	6400 cells	= 159	cells different	which is a group two class
81^2	=	6561 cells	= 161	cells different	which is a group one class
82^2	=	6724 cells	= 163	cells different	which is a group three class
83^2	=	6889 cells	= 165	cells different	which is a group one class

Searl knowledge 1946-1950:

SQUARES PAIRING:

84^2	=	7056 cells	= 167 cells different	which is a group two class
85^2	=	7225 cells	= 169 cells different	which is a group one class
86^2	=	7396 cells	= 171 cells different	which is a group three class
87^2	=	7569 cells	= 173 cells different	which is a group one class
88^2	=	7744 cells	= 175 cells different	which is a group two class
89^2	=	7921 cells	= 177 cells different	which is a group one class
90^2	=	8100 cells	= 179 cells different	which is a group three class
91^2	=	8281 cells	= 181 cells different	which is a group one class
92^2	=	8464 cells	= 183 cells different	which is a group two class
93^2	=	8649 cells	= 185 cells different	which is a group one class
94^2	=	8836 cells	= 187 cells different	which is a group three class
95^2	=	9025 cells	= 189 cells different	which is a group one class
96^2	=	9216 cells	= 191 cells different	which is a group two class
97^2	=	9409 cells	= 193 cells different	which is a group one class
98^2	=	9604 cells	= 195 cells different	which is a group three class
99^2	=	9801 cells	= 197 cells different	which is a group one class
100^2	=	10000 cells	= 199 cells different	which is a group two class

During **1946** Searl worked out from **square 3** to **square 100** and from that **investigation** the table above is the results; all generated from the game of **hopscotch**.

Searl states that whenever **data** are collected, **statistical methods** may be used. In fact, anyone who attempts to work with **data** like Searl acts like or has occasion to act like a **statistician**. **Statistics** is a **science**, based **mathematics**, which deals with such problems as (1) planning a program or an experiment for obtaining data so that reliable conclusions can be drawn from the data.

(2) Tabulating and analysing the data.

(3) Deciding what interpretations and conclusion can properly be drawn from the data.

(4) Determining to what extent the conclusions are reliable.

(5) Justifying by mathematics the methods used I (1), (2), (3), and (4).

Statistical methods are those **procedures** used in designing and **planning experiments** and in **collecting, analysing**, and **interpreting data**. **Statistical theory** has to do with **mathematical development** and **justification** of the method used.

Statistical methods may be thought of as falling in two classes. Those methods which are used more meaningfully to describe a set of **data** but which do not involve generalizations are commonly called **descriptive statistical methods**. Those methods which are used on a relatively small set of **data** to generalize concerning the nature of a much larger set of possible **data** make up methods of **statistical inference**. I trust that by now those idiots who have since **1968** been insulting Searl about his **education** will wish they had never made such Statements on the internet.

Searl knowledge 1946-1947:

In the case of **squares sharing**; which Searl have already shown **square three** sharing with **square 4** which is the **first pair**, as **square one** and **two** are not **real squares**, but **DNA structures** by which the squares can be created. **DNA** is another book to be. Let us look at the **second pair** of **squares**:

Square 5 group one class 25 cells.

Whereby; **square three** has only **9 cells**.

Square 7 group one class 49 cells.

Square 6 group three class 36 cells.

Square four has **16 cells**.

Square 8 which is a group two class 64 cells

The **structure** of the **squares** is in reality similar as that of the atom; its **construction** is of **shells**. Above you can see that **square 7** has **4 shells**; and also **square 8** have **4 shells**.

Therefore,

Square 3 must have 2 shells and its mate square 4 must also have 2 shells.

Square 5 must have 3 shells and its mate square 6 must also have 3 shells.

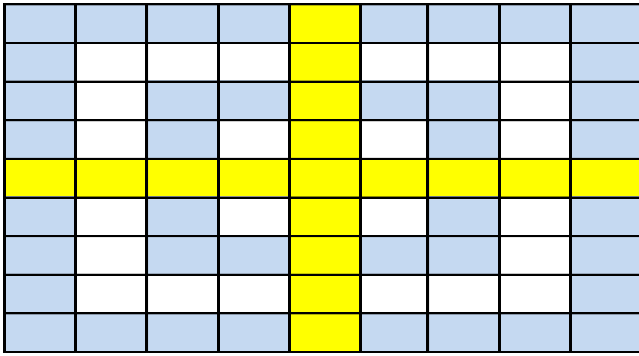
Searl can carry on to square 100 which he have worked out so long ago, not by **computers** or **calculators** in Searl time, as you have today such luxuries to do the hard work for you.

Again Searl repeat: is the law of the squares an **information technology** block? If so; you can **extract reliable data**, which can be employed in **planning** and **designing new products**; must therefore have the **property** of a **descriptive statistics method**; due to its **mathematical status**.

Searl points out that **descriptive statistical methods** or, simply, **descriptive statistics**, include those methods which are used in making and describing such well-known objects of our ever day experience as **graphs**, **charts** and **tables**. Such as examples as the batting average of leading hitters, defence-spending graphs, airline travel charts, stock market averages, census figures, production of **S.E.Gs** by months, and the index of living cost represent only a few of the **illustrations** of **descriptive statistics** we see regularly. Thus, many of the results and **techniques** of **descriptive statistics** are known to most of us.

Strange how you people knocked Searl when you speak about his **education**. You clearly show lack of **intelligence** on the internet. So many **medical** top rank staff agrees with Searl that the world is far more **insane** then it was in Searl childhood days.

Searl knowledge 1946-1950:

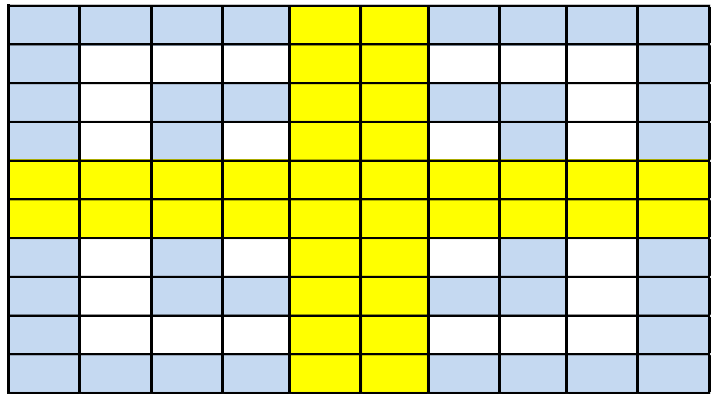


Square 9 is a group 1 class = 81 cells.

Square 9 is constructed with 5 shells

To my mind Searl see Sir Isaac Newton's second law looking him in the face. Yes, the squares may be different in weight but the amount of force needed to overcome inertia would be the same; as the shells show the force is the same regardless of the weight.

Clearly square 10 are more massive than square 9. It is also the fourth pair.



Square 10 is a group three class = 100 cells.

Square 10 is constructed with 5 shells.

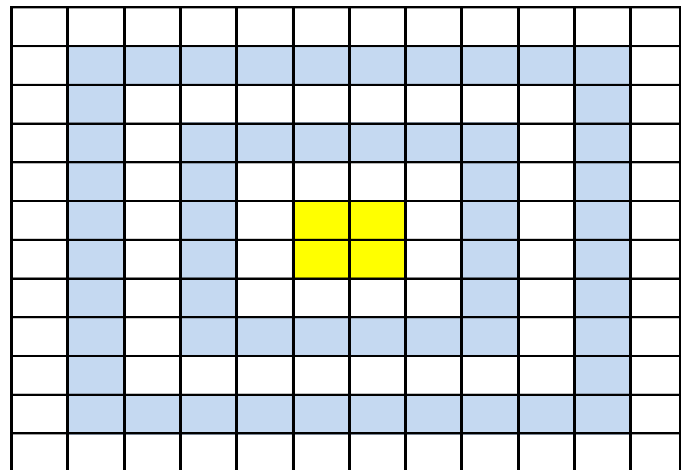
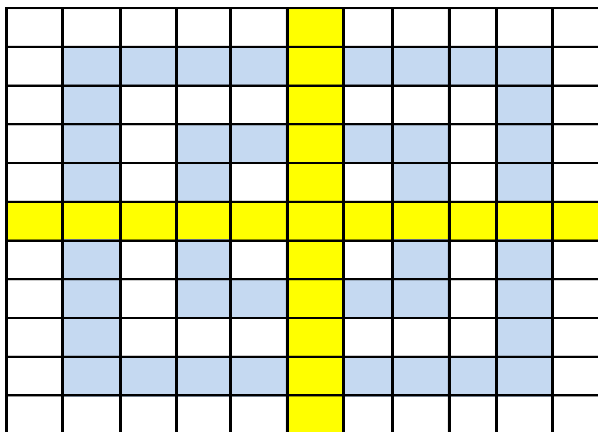


Shown here is a single roller set, at this time our lab version has been magnetised the old fashion way, therefore as Sir Isaac Newton's second Law states thus it will require power of the same amount regardless if it is just one or more roller sets. This proof can be seen at our lab in the States on the S.E.G. mock up using conventional magnetic system.

The S.E.G. does not employ conventional magnetising system. And unfortunate it changes the condition of acting forces. No sign can be witness that power is being used to overcome inertia. There Sir Isaac Newton, you were not aware that magnetizing may change with time – which time is now in the making.

Plate and roller set magnetised the old way.

Searl knowledge 1946-1950:



Square 11 is a group 1 class = 121 cells. Square 12 is a group 2 class = 144 cells

Square 11 is constructed with 6 shells. Square 12 is constructed with 6 shells. Here again is proof that Sir Isaac Newton lived during the period of **1642** to **1727** was correct about the power needed to overcome inertia of conventional technology. There was nowhere that he could have known that light colour had different frequencies and that each colour band will generate its own magnetic frequencies.

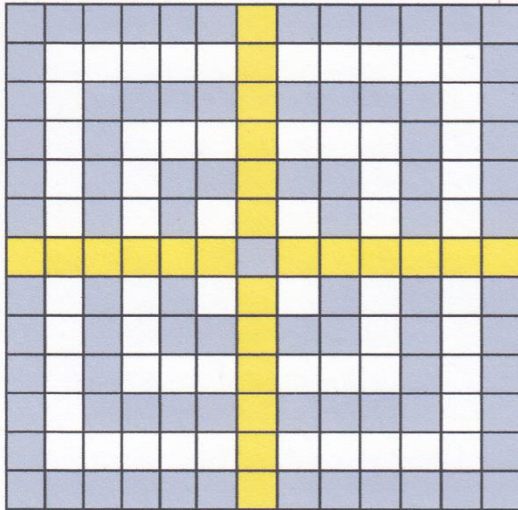
It was during the Christmas time of **1946**, when Searl was wiring up colour lights that it played on him that the magnetic band was not just one frequency but seven types of them, each relating to its colour band it was noticed by accident which often happen to people. If Albert Einstein **1879 – 1955** had never noticed it either, as in his later adult life he spent his time trying to prove God created everything, but died without being able to prove it. Yet, he is claimed to be the greatest scientist of our time. Nobody has equalled him since.

Searl agrees that much of his teachings he agrees with. After all, let's face he had no way to prove it, yet today we can prove his claims and found him almost spot on with his assumptions about the bending of light waves. Yes, your memories are rather shot term one's. So many of you have knocked Einstein: as if he was living today. You have forgotten that since **1955** the world has change a number of times.

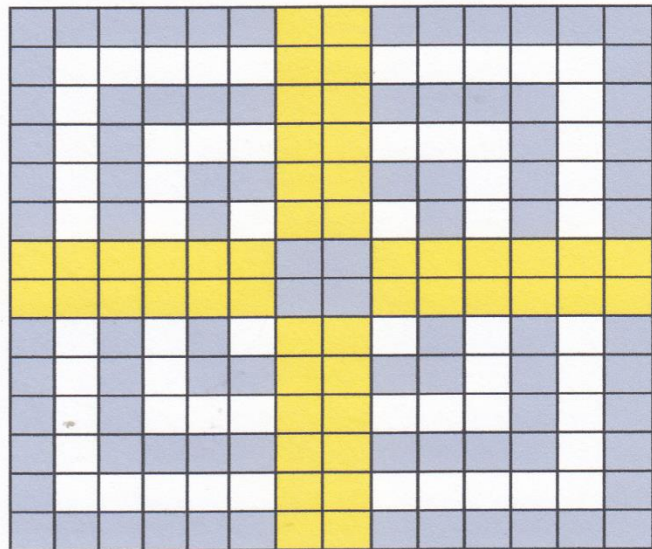
It is wrong to knock the dead, as they were right at that time; even if they could not prove it as the tools had not been invented by which they could check their assumptions. By knocking them you actually tarnish yourself which gives the image of self-importance. Which do not impress Searl at all; where Searl give credit where credit is due? Just because Searl is trying to solve problems from an entirely different angle to you; does not mean that Searl is wrong, as Searl may be proven to be right. If so, where do you stand? There is a great saying never do unto others what you do not want done to you.

It sad: when people cannot help those who work to create a better world for all humankind regardless. The world would be such a better place for all humankind including the animals we depend on for food.

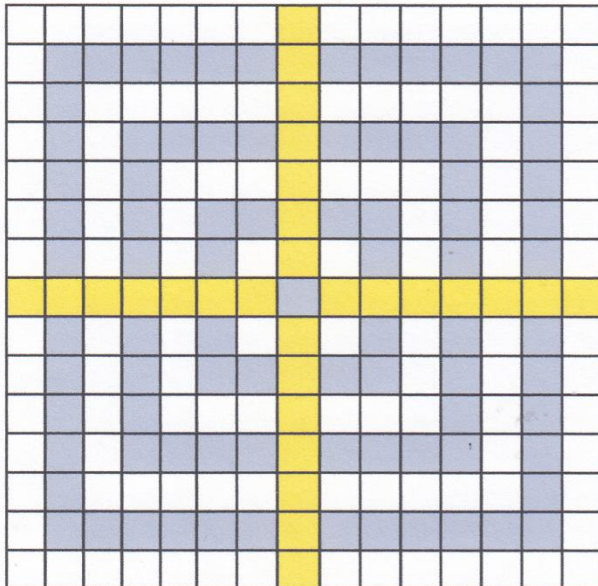
Searl knowledge 1946-1950:



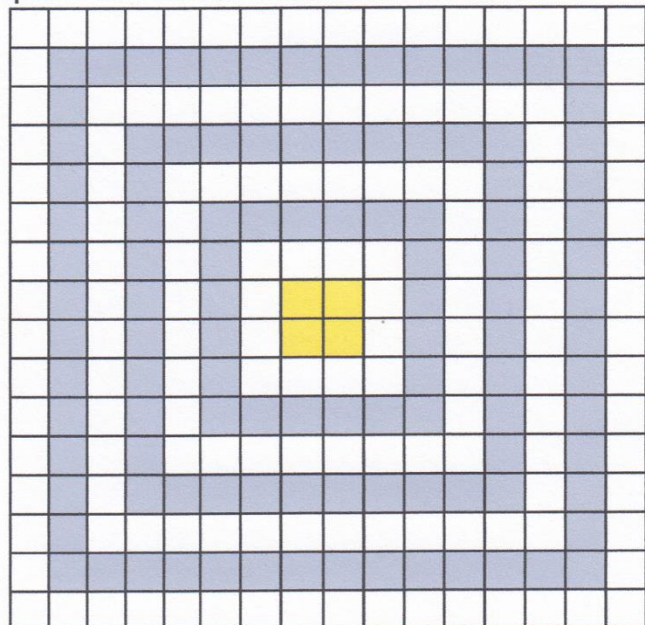
Square 13 is a group 1 class = 169 cells.
Square 13 is constructed with 7 shells.



Square 14 is a group 3 class = 196 cells.
Square 14 is constructed with 7 shells.



Square 15 is a group 1 class = 225 cells.
Square 15 is constructed with 8 shells.



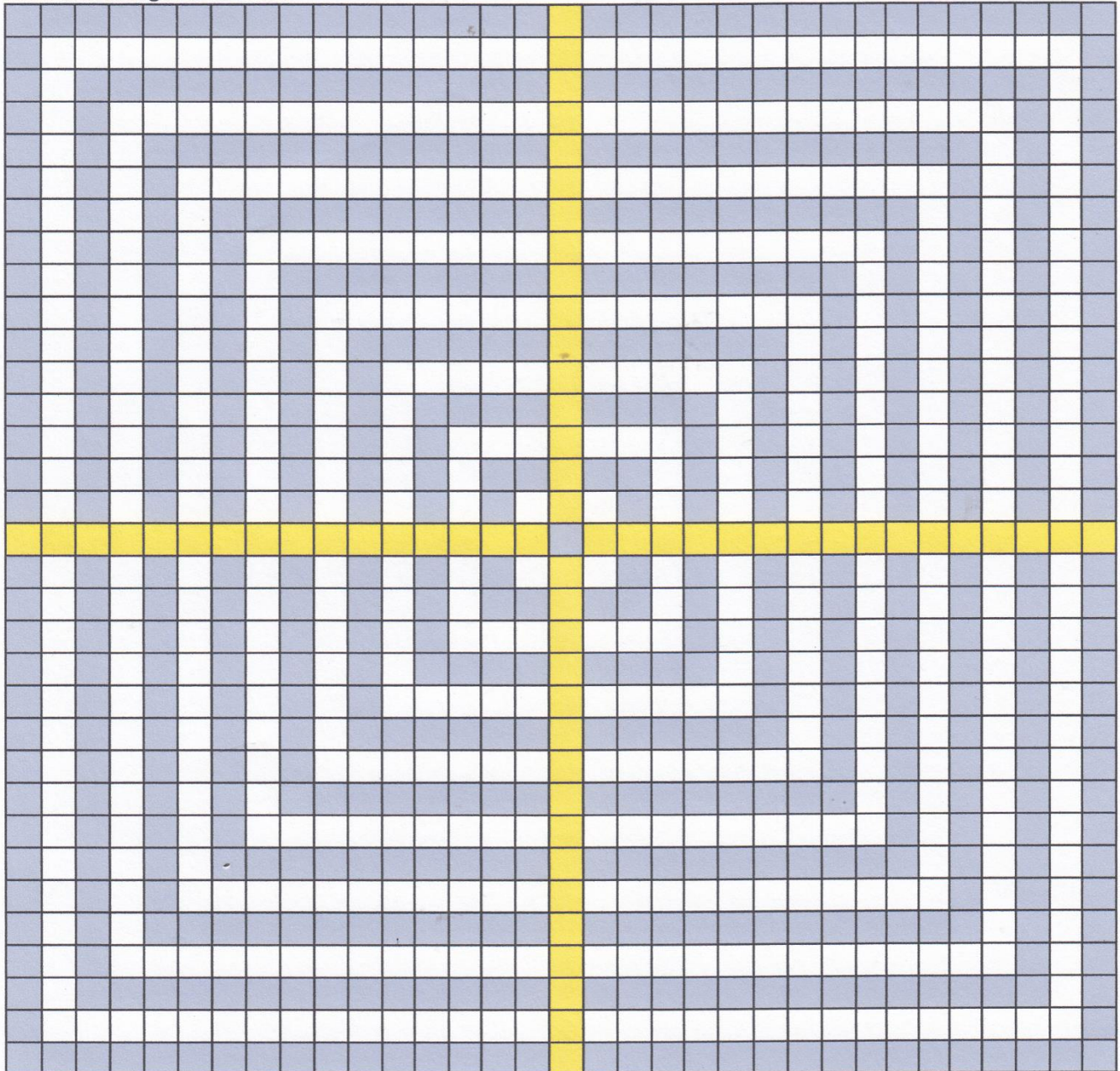
Square 16 is a group two class = 256 cells.
Square 16 is constructed with 8 shells.

Of course Searl can continue pairing all squares up to **100** which Searl work out in late **1946**. Above is the smallest grid with my eyes Searl can work today. Clearly that is far too small size grid to fill values in. What I see presenting that in nature there occasions when two items pair up in fashion of a cooper pair. Like two Suns in solar system, acting on the system as if they are one unit.

Did Albert Einstein or Sir Isaac Newton understand matrixes as an information tool – there appear to be no evidence to support that they did. They both appear to be proving other problems in science. Searl found it through a game called **hopscotch**. This was the key to his **technology**.



Searl knowledge 1946-1950:

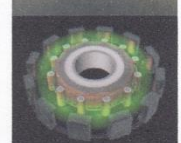


Square 33 is a group 1 class = 1089 cells. It is constructed from 17 shells. It would take me around 10 minutes or less to fill out the numbers on a squares line sheet of paper. What we see is a **mathematical property** of the **matrixes**, which are in a similar form of that of the atom. Every shell has its own **mathematical methods** to get it right. But the **group 1s** are the easiest squares to work out. Agree **group 2s** are harder to work out, but you have witness even those only takes seconds to work out.

Ancient man may not had the tools that we have today, or the **mathematics methods**, nevertheless was able to create products to support his family with such simple tools. Searl appreciate that most of you could not survive such conditions – whereby Searl can and have done so. Agree, like you Searl cannot image what life was like for **Sir Isaac Newton** with the **black death running wild**, it must had been of great concern to him and his family. But that event allowed him to read all these papers of other top man's research offered; from which he generated his **3 assumptions** now term **laws**. Well done Isaac Newton.

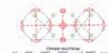
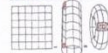
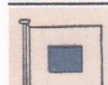
Searl knowledge 1946-1950:

V	LV	FV	CV	S1	S2	4C	(X-	X+)
0	12	36	4	4	32	16	8	8
1	15	45	5	5	40	20	10	10
2	18	54	6	6	48	24	12	12
3	21	63	7	7	56	28	14	14
4	24	72	8	8	64	32	16	16
5	27	81	9	9	72	36	18	18
6	30	90	10	10	80	40	20	20
7	33	99	11	11	88	44	22	22
8	36	108	12	12	96	48	24	24
9	39	117	13	13	104	52	26	26
10	42	126	14	14	112	56	28	28
11	45	135	15	15	120	60	30	30
12	48	144	16	16	128	64	32	32
13	51	153	17	17	136	68	34	34
14	54	162	18	18	144	72	36	36
15	57	171	19	19	152	76	38	38
16	60	180	20	20	160	80	40	40
17	63	189	21	21	168	84	42	42
18	66	198	22	22	176	88	44	44
19	69	207	23	23	184	92	46	46
20	72	216	24	24	192	96	48	48
21	75	225	25	25	200	100	50	50
22	78	234	26	26	208	104	52	52
23	81	243	27	27	216	108	54	54
24	84	252	28	28	224	112	56	56



Searl knowledge 1946-1950:

V	LV	FV	CV	S1	S2	4C	(X-	X+)
25	87	261	29	29	232	116	58	58
26	90	270	30	30	240	120	60	60
27	93	279	31	31	248	124	62	62
28	96	288	32	32	256	128	64	64
29	99	297	33	33	264	132	66	66
30	102	306	34	34	272	136	68	68
31	105	315	35	35	280	140	70	70
32	108	324	36	36	288	144	72	72
33	111	333	37	37	296	148	74	74
34	114	342	38	38	304	152	76	76
35	117	351	39	39	312	156	78	78
36	120	360	40	40	320	160	80	80
37	123	369	41	41	328	164	82	82
38	126	378	42	42	336	168	84	84
39	129	387	43	43	344	172	86	86
40	132	396	44	44	352	176	88	88
41	135	405	45	45	360	180	90	90
42	138	414	46	46	368	184	92	92
43	141	423	47	47	376	188	94	94
44	144	432	48	48	384	192	96	96
45	147	441	49	49	392	196	98	98
46	150	450	50	50	400	200	100	100
47	153	459	51	51	408	204	102	102
48	156	468	52	52	416	208	104	104
49	159	477	53	53	424	212	106	106



We shall change our ways of generating electrical energy to cleaner ways, which shall include transportation systems. We can no longer afford to wait we must act now in their development stage.

Searl knowledge 1946-2014:

Searl accepts that are just a few real experts who actually read his books, which results in a helping hand or, even funds to keep the work going in the USA. Searl accepts that one day in the future; a student will actually read this book who will tell the world about it as it is something new. The law of the squares are many thousands of years old, at least over 5,000 years old. Nevertheless, over the period of the sixties many scientists wrote about his work after they visited him. From that period of time many songs came out based on space; most of which you young ones have never heard of. Not only the planet is changing, so are you; but it appears to be on a down way slope and, not an up way slope which it should be.

Searl have never claimed to be perfect – but, at least he trying to be perfect, which will be the best that anyone can do. In his case he does require hands on experience across many fields of science to be capable of designing and masterminding the future technology. The reality Searl received those hands on experience and today at the **age of 82, 3 months and 18 days** old; Searl is still learning.

How **mathematics** are forced to change. Example after Wright Brothers made that flight in **1903**; which proved yet again how wrong experts can be. Methods in **mathematics** had to be invented to correctly confirm your height in flying. First some concept from which **mathematics** could be expanded to meet the needs of this **new age** just about to take off. The sea level was accepted by **arbitration**. Now we could understand what the airport or airfield **elevation** is. For example: Gillesple air field in San Diego, California, USA that lies in a basin below where Searl is living; has an field elevation of **388 feet** above mean sea level. OK, so the pilot now knows how high that air field is in reference to the mean sea level. But where on earth is this airfield situated? More **mathematics** had to be invented, term longitude and latitude, In the case of Gillesple air field its airport coordinates: North $32^{\circ} 49' 57$ seconds north of the equator and West of Greenwich: London – Uk. $116^{\circ} 58' 35$ seconds.

That is not all: a pilot needs to know – such as how many runways are available to land on. Again **mathematics** comes into play. In the case of **Gillesple airfield** there are six: four long ones which have lights and two short ones which has no lights. The two long runways are **9L** and **27R**. The other two runways are: **17** and **35**. The short one is: **9R** and **27L** which closes at sunset until sun rise. Bear in mind that the true North we do not fly, instead we fly the **magnetic North** which varies, at this time it is **13° E**. On top of that the pilot has **radio communication** to deal with. This requires **mathematics** to work out the **frequencies**; not only for the station control tower of every airfield and its ground control frequencies as well then there are the radar control frequencies to add to the list of **mathematics**. There are other important frequencies a pilot requires to know, but that is another document to come.

Therefore, as fact: as **science advance** so does **mathematics** to keep pace with **science**. The project **I-G-V** calls for much more **mathematics** than the **S.E.G.** requires. That is why Searl got interested in **mathematics**, which without you cannot create perfect products.

Searl knowledge 1946-2014:

2014: Searl wish to inform you that to his knowledge; neither that world's **calculus expert** nor his **witch doctor** has ever have made an **S.E.G.** or an **I-G-V**. Thus, the motto to this story is never in public talk out of your arse. They spend their time: insulting those who are trying to help this planet. Where these **experts**: actually **contribute** nothing of worth that helps this planet; except to stop such success of being achieved.

Searl states: may he suggest, with due respect, that he will know better than Searl do; the type of example best suited to the particular needs of all students looking for employment within the **Searl Technology**. And Searl wager: he will find plenty of such examples in Searl books by which examination papers can be created and elsewhere. You quickly forget that Searl had many **top expert teachers** training him; the results clearly show that: **you have ears but you do not wish to hear, you have eyes but you do not wish to see – WHY?** Because: Searl is outside the box, which they are in.

Searl accepts that **Physics** is one of the **sciences**. That means that the **S.E.G.** plus the **I-G-V** must belong to the world of **physics**. Searl understands that for more than two hundred years the word **science**, as used in this connection, has had a **definite meaning**. **Science** is organised common sense; it deals with the orderliness which Searl find in the world, with the regularities of nature. Searl states that indeed it proceeds from the **assumption** that the **phenomena** which **impinge** on Searl **senses** are **essentially regular**, subject to the rule of **law**. 'To see what is **general** in what is **particular** and what is **permanent** and what is **transitory** is the aim of **Searl scientific thought**'.

Searl has always stated that **physics** is **distinguished** from the other **sciences** chiefly because it involves **measurement** more **systematically** than they do; to this extent it is the **basic science**. It deals with the **varied interactions** of **dead matter**: searl says that it may be defined as the body of **knowledge** derived by making **measurements** on things. Like Searl does on his **bowel movements**, **time** he takes **medication**, besides the actual work on the **S.E.G.** Searl states that obviously this is not a **precise definition**. Searl accepts that nowadays the divisions between the **sciences** are less clear cut than they were earlier **assumed** to be: Searl notice that our **definition**, then, will suffice for present purposes.

Searl admits that **measurements** only came to him as being **important** in his first **employment** on leaving school; strange that it failed to registered during his **naval training**, maybe that was due to the fact that he had to catch up with all the others in training there; in **basic knowledge**, that left Searl no time to appreciate **measurements** as being important. The excitement of going to sea to fight the Germans made it more important for Searl catches up with the rest of the sea cadets, even though he was **clinical deaf** and with an **imbalance** state he fought to win. If any officer did notice that he had problems they closed their eyes; as their task was to make a sailor out of you regardless. Right or wrong that was the picture of that time. Searl always wonder what happen to all those boys from that school of his time. Did they end up going to sea or not. Bear in mind that Searl join the **military** in **1944** to train to become a sailor – hopefully!

Searl knowledge 1946-1968:

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Searl is now going to try to explain what his company must be able to do. Searl say although a high degree of **data compression** is obtained by using the **techniques** of **tabulation**, which Searl show earlier but he feels that it is more helpful in many cases to present the **information** in an **abbreviated numerical** form, **particularly** for **purpose** of **comparison**; is that correct **Sir Professor Steven Donnelly**? Who is known as **Flowerbower** on **YouTube**? Searl continues that a **statistical set** or **group** of **data** can be concisely described by reference to **three types** of **measurement**, is that correct **Sir Professor Steven Donnelly**?

By the way **Alan Titmarsh** on **BBC Pebble Mill TV mid-day show** listed you as **Dr. Steven Donnelly**. Was that because of that date you were not a **Professor**? Your claims on web make you a Dean at two universities, how come? As stated already: when **Alan Titmarsh** threw that question to you about my project; you reply with a good answer for the kind of **audience** present. Had they been real **professors** and **Doctors** you would had fallen on your face with such a silly answer.

Searl must agree that your **demonstration** would have been great at **infant schools**. It is a good thing Searl did not bring his gear up to show, you would had walk out of the show. But **Donnelly** Searl took a great liken to you that is why he sat back and let you do your bit that you had planned. Where Searl would have **demonstrated** his project as **Sir Isaac Newton** and **Albert Einstein** would have done it. Are you just a **homemade Dr** and **professor** of **sceptic's magazine**? Searl feel certain that there are many people out there, who now would like to know the truth; which includes Searl who would like to know too.

Searl will now return to the first paragraph above.

- (1) **Measure of position**: i.e. measure of central tendency or more commonly, averages:
- (2) **Measure** of spread or dispersion:
- (3) **Skewness**, which is a measure of the tendency of the group towards symmetry or lop-sidedness.

Searl remind you that this section is what **SEARL GLOBAL TECHNOLOGIES** must be capable of undertaking for the operation of the company divisions that must be created. At this moment Searl is concerned with the first measure only Donnelly, namely **averages – wow** – Searl understand that with no formal education. You shall see as the document take shape. Searl however, stated that **statisticians** do not use the term '**averages**' WHY **Dr Donnelly**? Do you **Bradley Lockerman** or **John Thomas** know **WHY**? Searl will take a pop guess that none of you know **WHY**. Therefore, Searl will **politely** tell you why. It is because it is too **imprecise** and has too many **connotations**. Searl agree nevertheless, even in its general form the aim of an **average** is to **describe** the **group** which it represents and to provide a basis for **comparison**. Searl states that there are **four kinds** of **averages** which are of **particular interest** – here comes the **Law** of the **Squares** again:

- 1 Arithmetic mean:
- 2 Geometric mean:
- 3 Median:
- 4 Mode.



Well Donnelly what do you think I am going to do with this information? No Donnelly I do not have the time to do that, agree I would enjoy doing that to you. But Searl will try to find the time by which he can fully explain each item listed here as they are vital issues for success of the functions of **SEARL GLOBAL TECHNOLOGIES** and if all who wish to learn; you are all welcome, even you **Donnelly** with Searl blessings. Searl make it clear there are lots to learn before you can **mass produce** the **S.E.G.** alone. It is a product which **Sir Isaac Newton** and **Sir Albert Einstein** would enjoy being part of the team.

Searl knowledge 1946-1968:

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

THE ARITHMETIC MEAN:

Searl say that the **arithmetic mean** is found by adding the sum of the variables within a **group** and dividing the sum by the number of variables (**observations**) within that **group**. Searl points out that in some **circumstances**, the values contained in the **group** do not have the same **degree of importance** and it is therefore necessary to **classify** the **arithmetic mean** into either the **simple mean** or the **weighted mean**. Searl say that the latter takes into account the relative importance of each observation.

SIMPLE ARITHMETIC MEAN: Searl says for this **calculation** each item within the **group** is **assumed** to have equal importance. The **formula** to Searl for **calculating** the **simple arithmetic mean** is given by:

$$\text{a.m.} = \frac{\sum x}{n}$$



Searl say given a set of **n** numbers, $x_1, x_2, x_3, \dots, x_n$, the a.m. (arithmetic mean) is defined as the sum of the numbers divided by **n**. Searl informs you that **Sigma (Σ)** is a sign of summation and $\sum x$ denotes the sum of all **quantities** like **x**. The notation for the **arithmetic mean**, which is usually abbreviated to **the mean**, is \bar{x} when dealing with **sample data** and μ when dealing with **population (or universe data)**.

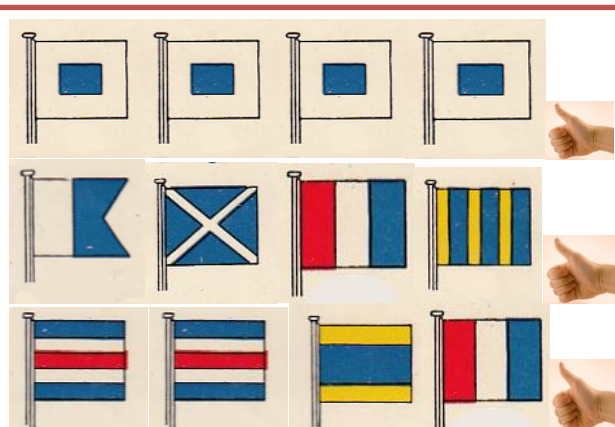
Searl states that the definition given above is appropriate only in the case of **unit frequencies**. Searl say suppose that the **x** values are associated with the frequencies $f_1, f_2, f_3, \dots, f_n$, then the **mean \bar{x}** is given by:

$$\bar{x} = \frac{f_1x_1 + f_2x_2 + f_3x_3 + \dots + f_nx_n}{n}$$

$$\bar{x} = \frac{\sum fx}{\sum f} = \frac{1}{n} \times \sum fx$$

Example:

Wages	Frequency	
x	f	fx
5	1	5
6	3	18
7	8	56
8	4	32
9	2	18
11	1	11
12	1	12
Total	20	152



We are here in San Diego, California, U.S.A. We are here to clean up the pollution problem. 🇺🇸

Searl knowledge 1946-1968:

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

$$\text{Therefore, } \bar{x} = \frac{152}{20} = £7.60 = \text{the mean wage.}$$

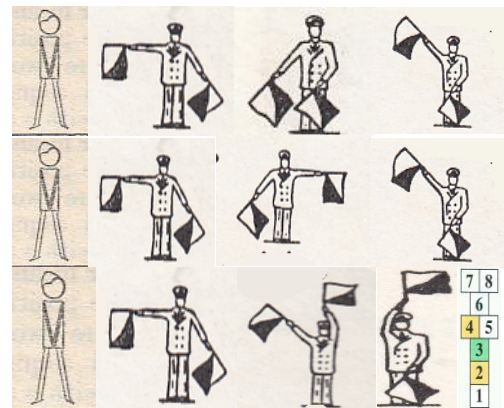
This is the answer to last Example on page 151 wage structures. Those who wish to learn Searl will try to make another example.

Wages Frequency $\dot{x} = 350/32 = £10.94$ the mean wage.

X	f	fX
8	1	8
9	5	45
10	11	110
11	7	77
12	5	60
14	1	14
15	1	15
21	1	21
<hr/>		
Total	32	350



This is one division of SGT in USA!



We are here in San Diego to try to mass produce clean energy technology now!

THE WEIGHTED ARITHMETIC MEAN:

Searl say for this **calculation** each item within a group is assigned a **weight proportional** to its importance within that **group**. Searl say that the **formula** for **calculating** the **weighted arithmetic mean** is given by:

$$\bar{x} = \frac{w_1x_1 + w_2x_2 + w_3x_3 + \dots + w_nx_n}{w_1 + w_2 + \dots + w_n}$$

Searl say that this can be abbreviated to read:

$$\bar{x} = \frac{\Sigma(wx)}{\Sigma(w)} \quad \text{or} \quad \frac{\Sigma(wx)}{n}$$



Research means testing materials to check their reactions. This is being done at SMI San Diego, California, U.S.A. We have to learn just like you, but at a higher level.

Where w_1, w_2, \dots, w_n represent the **weightings, actual or estimated** to be applied to the quantities w_1x_1, \dots, w_nx_n .

Searl will now present another example:

SEARL AEROSPACE CORPORATION: employs 350 employees, of which 200 are **classified** as **skilled**, 100 as **semi-skilled** and 50 as **unskilled**. The **mean wage** for each **group** is **£120**, **£100** and **£78** respectively. The personnel manager wishes to calculate the **mean wage** paid by the company. Searl states that if **SEARL AEROSPACE CORPORATION:** personnel manager use **simple arithmetic mean** to **calculate** the **mean wage** then Searl says we have:

$\dot{x} = \frac{\Sigma(x)}{n}$ where the variates, x_1, x_2 , and x_3 are 120, 100, and 78 respectively, and $n = 3$. Searl wonder if everyone can understand this, so Searl will try another approach to explain what he is stating here

Searl knowledge 1946-1968:

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

As stated by Searl on page 152, that he would try to make the information in greater detail for those who wish to understand what the above name company must be able to undertake.

Skilled operators are listed as a group x_1 , where semi-skilled operators are listed as group x_2 , and those employed who are not skill are listed as group x_3 . Searl trust now you can understand what Searl is stating here.

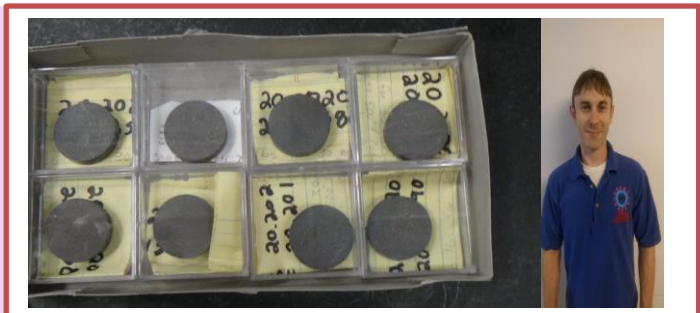
$$\bar{x} = \frac{120 + 100 + 78}{3} = \text{£}99.33 \text{ per week.}$$

Searl say for those who cannot understand this example he will explain in more details. The values **120 + 100 + 78** relate To **£120 + £100 + £78** in other words the wages paid to the **different groups**. The **3** relates to the **3 different groups**.



Searl states that however, this **mean wage** is not strictly accurate. The **variations** in **wage rates** and the number of **operatives** in each **group** make it necessary to calculate the **mean weekly wage** by using the **weighted arithmetic mean**. The **unskilled workers** would feel somewhat cheated if they were told that they were, on average, **earning £99 per week!** Thus:

$$\bar{x} = \frac{\sum(wx)}{n}$$



Where the **weights w_1 , w_2 , and w_3** are **200, 100 and 50** respectively. Searl reminds you that these values relates to the **workforce**, in case you wonder where those values come from. Searl say that you should **NOTE** that **n** no longer represents the number of **classes** or **groups** but the **total population** within the **group**. Searl say that this is normally the way we present such data:

$$\text{Thus, } \bar{x} = \frac{(200 \times 120) + (100 \times 100) + (50 \times 78)}{350} = \text{£}108.29.$$



Searl understand that some of you may wonder how he has obtained these values: Searl hereby explain how; There are **200 skilled workers** getting **£120**, thus you can say **200 x £120 = 24,000** and **+ 100 semi-skilled workers** getting **£100**. Thus **100 x 100 = 10,000**; **+ 50 unskilled workers**: getting **£78** therefore **50 x 78 = 3,900**. Searl total these sums **24000 + 10000 + 3900 = 37900**. That relates to the value above the line. So what does that value under the line relates to? Searl tells you that is **n = total number of the workforce**; total **200 skilled workers + 100 semi-skilled workers + 50 unskilled workers = 350 workforce**. Searl say we must now **divide 37900 by 350 = 108.28571** so the **SEARL AEROSPACE CORPORATION** rounds up the **value** to **£108.29**.

Searl hope by now all will recognize that **SEARL AEROSPACE CORPORATION** is not a con company as some have claimed on YouTube. But a very serious research and development company on flight requirements. Page 153©

Searl knowledge 1946-1968:

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Searl can understand that **unskilled workers** may feel that this is an even more **unrepresentative figure** of their earnings. Searl confirm that this example shows that weighted arithmetic mean is the CORRECT method of calculating the mean when items vary in their importance.

Advantages and disadvantages of the arithmetic mean:

Advantages:

1. It is easy to understand and calculate:
2. It utilizes all the data in the group or class:
3. It is suitable for arithmetic and algebraic manipulation.

Searl say that all company managers have their concept for setting up their company. Searl is just showing his way, if success is to be.

Disadvantage:

1. Searl states that it may give too much **weighting** to items at the **extreme limits** of the **group** to such an extent that it may be **questionable** whether the **mean** is actually representative of the **data**. This is just one problem Searl has to bear in mind that no errors are generated within his calculations.
2. Searl says that when finding the **\bar{x}** of **grouped data**, we can find either the **mid-point** of the **class**, and **multiply** it by the **frequency (f_x)** or, more easily, assume a **mean** and work in **actual deviations** from the **mean**, as Searl will show in the following example.

Example:

Searl say determine the mean of the following monthly earnings:

Monthly earnings (£)	No. of people
127.50	22
142.50	38
157.50	70
172.50	66
187.50	34
202.50	18

Searl wish to inform you that all figures in these examples are based on **1946** in the **UK** and not **2015** payments in the **U.S.A.**

Searl now relate to above information: First make an **educated estimate** of the **mean**, say **£157.50** in this case. Searl say that the table may now be written as follows.

Earnings	Frequency	Deviation from assumed mean	Frequency x deviation
127.50	22	-30	-660
142.50	38	-15	-570
157.50	70	-	-
172.50	66	+15	+990
187.50	34	+30	+1020
202.50	18	+45	+ 810
	248		+2820; -1230

We are already started R&D on absolute green technology.

Searl knowledge 1946-1968:

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

$$\begin{aligned}\text{Therefore, } \bar{x} &= \text{£157.50 (the assumed mean)} + \frac{+2820 - 1230}{248} \\ &= \text{£157.50} + \text{£6.411} \\ &= \text{£163.9 (the true arithmetic mean)}.\end{aligned}$$



Searl accepts that many people will not understand how Searl obtained these values, so Searl will try to show you how. In the illustration on page 154 the bottom block the answers show **frequency = 248** and the **frequency x deviation = +2820; -1230** how did Searl obtained these values. Searl knows that the **frequency = 248** relate to **number of people employed**. Searl say what might puzzle you is how he gets **+2820; -1230**. Searl understand that issue. Is based upon the **assumed mean**, Searl takes the **+2820** and then take the value of the **frequency x deviation = 1590** take this value from **+2820 = 1230** then Searl **divide** this by **284** the **frequency = 6.4112903** Searl round this down as it below **5 = £6.411**. Searl now takes the **assumed mean = £157.50 + £6.411 = £163.91129** Searl round this down to **£163.9** the **true arithmetic mean**. If anyone thinks Searl is wrong please do the work out and send the details to Searl to be check.

THE GEOMETRIC MEAN:

Searl say when the **percentage** change rather than the **actual** change is the important factor, it is necessary to **calculate** the **average** using the **geometric mean**. Searl points out that for an example, the **retail index**, which is concerned with **percentage change** within a period, is **calculated** using the **geometric mean**. Searl also say that too is the **share price index** in the **Financial Times**. Searl states that the **geometric mean, g**, can be expressed as the **nth root** of the **product** of the **n quantities** comprising the **group**. Well what do you think of that **Sir Steven Donnelly**?

Symbolically:

$$g = \sqrt[n]{x_1 \cdot x_2 \cdot x_3 \cdot \dots \cdot x_n}$$

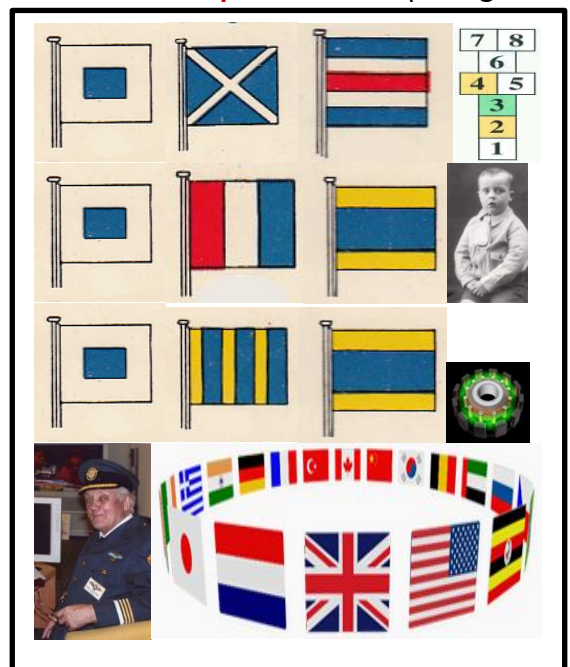
And the weighted geometric mean is

$$g = \sqrt[n]{x_1^{w_1} \cdot x_2^{w_2} \cdot x_3^{w_3} \cdot \dots \cdot x_n^{w_n}}$$

Where x = the variate:

w = the weighting factor:

$$\sum(w) = n.$$



Advantages and disadvantages of the geometric mean:

Advantages:

1. It utilizes all the data in the group:
2. It is determinate (i.e. it is exact), provided that all quantities are greater than zero:
3. It attaches less weight to large items than does the arithmetic mean:
4. It has certain properties which make it especially useful when dealing with relative as compared with absolute numbers, i.e. it is especially useful when describing ratios.

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Disadvantages

1. It cannot be used when any of the values are zero or negative.
2. It is less easy to use and understand than the arithmetic mean.

Example

A small engineering factory made net profits of £20 000, £80 000 and £200 000 in 1979, 1980 and 1981 respectively. What was the average rate of growth of the firm's profits?

Using the arithmetic mean,
 from 20 to 80 (1979/1980) = 4,
 from 80 to 200 (1980/1981) = 2.5.
 Therefore, $(4 + 2.5)/2 = 3.25$.

However, this could be misleading for:

$£20\,000 \times 3.25 = £65\,000$ and

$£80\,000 \times 3.25 = £260\,000$.

However, by using the geometric mean g can be recalculated as $g = \sqrt[3]{4 \times 2.5} = \sqrt[3]{10} = 3.162$. Therefore, $£20\,000 \times 3.162 = £63\,240$; $£80\,000 \times 3.162 = £252\,960$ (this figure being nearer to the actual final profit).

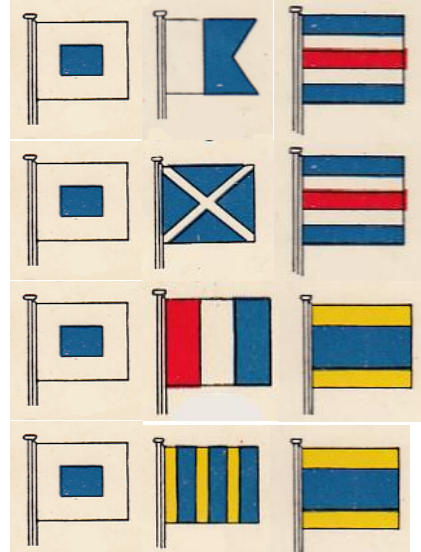
Similarly, calculation of the arithmetic mean of the actual profit figures would give $£300\,000/3$ which equals $£100\,000$. However, as discussed earlier, extreme values of the variate may significantly affect the arithmetic mean. In this example, the £200 000 in 1981 is tending to 'pull up' the mean rather more than the £20 000 in 1979 is pulling it down.

If the geometric mean is calculated using the logarithmic method, which is much easier than using the previous formula, a more realistic figure is obtained.

The logarithmic method

$$\log g = \frac{\sum_{i=1}^n \log x_i}{n}$$

This formula looks complicated, but when translated simply



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means add up all the logs of the variable values and divide by the number of variable values. For example,

$$\begin{array}{rcl} \log 20\,000 & = & 4.3010 \\ \log 80\,000 & = & 4.9031 \\ \log 200\,000 & = & 5.3010 \\ \hline & & 14.5051 \\ \hline \end{array}$$

Thus, $14.5051/3$ equals 4.8350. The antilogarithm of this is 68.4 which, converted to five decimal places, equals £68 400.

However, the geometric mean is rarely used in practice except in economic statistics, where it is of particular use in the construction of index numbers *vide infra*.

For the sake of completeness, the **harmonic mean** of n numbers, $x_1, x_2, x_3, \dots, x_n$, is defined as n divided by the sum of the reciprocals of the values. The harmonic mean is also rarely used in practice, but it does, on occasions, provide a more appropriate average.

THE MEDIAN

The median is that value of the variable which divides the group into two equal parts. It may be defined as the value of the middle item (or the mean of the values of the two middle items) when the items are arranged in an ascending or descending order (**array**) of magnitude (size).

Example

If a set of *ungrouped* values, 2, 4, 6, 8, 10, 12, 14 and 16, are taken and arranged in ascending order of magnitude, then the median value is the mean of 8 and 10 which equals $18/2$, i.e., 9. The formula $(n+1)/2$ gives the position of the median, where n represents the number of observations (i.e., the sum of the frequencies). The formula does not give the median; it tells us how many of the ordered values must be counted before the median is reached. If the frequency is normally distributed then the mean and the median will be the same.

Advantages and disadvantages of the median

Advantages

1. It eliminates the effect of extreme values.
2. It often corresponds to a definite item in the distribution.
3. It is easy to calculate and understand.
4. Only the values of the middle items need be known, i.e., the median can still be calculated even if the first and last classes are open-ended and the lower and upper units are unknown.

Disadvantages

1. If the distribution is irregular, the indication of the median may be indefinite.



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2. When the items are grouped, it may not be possible for the median to be located exactly.

Calculating the median of *grouped data*

The median, of data grouped into classes, is found by taking the lower boundary of the class into which the median must fall plus a fraction of its class interval.

Example

Calculate the median from the following set of grouped, discrete data.

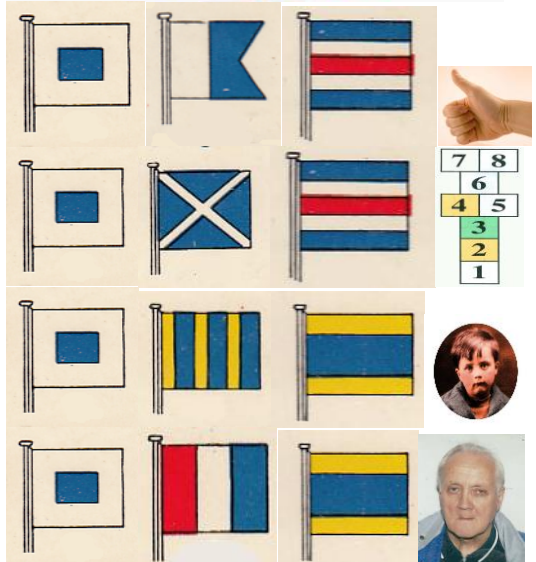
Output per operative	Frequency	Cumulative frequency
50–54	4	4
55–59	8	12
60–64	12	24
65–69	18	42
70–74	21	63
75–79	13	76
80–84	7	83
85–89	3	86
90–95	4	90

First, the frequency is divided into two equal halves, i.e., $n/2$. Since n equals 90, the median occurs at $90/2$ which equals 45. The 45th item occurs in the class 70–74. So the median must equal $70 + 4 \times (45 - 42)/21 = 70.6$, i.e., the median output per operative (71 units).

THE MODE

The mode is defined as the variable (or *attribute*) which occurs with the most frequency. It can be applied to both quantitative and qualitative data. For example, if more employees in a firm earn £120 per week than any other figure, then the modal wage rate is said to be £120. To give another example, if more cars fail the MOT test because of defective tyres than any other cause, then the modal cause of failing is defective tyres. The mode is a particularly useful average for discrete series, e.g., the number of people who wear a given shoe size. Consider the manager of a shoe shop – would he reorder shoes from the manufacturer by quoting the mean size, the median size or the modal size? There are, however, many problems in which a mode does not exist or where it is not unique, i.e., where there may be more than one mode, giving rise to a bimodal frequency distribution.

Unless the mode is self-evident, it may, in practice, be quite difficult to calculate if some degree of precision is required. The only satisfactory method is to fit a curve to the distribution and determine the highest point of the curve in relation to the independent variable. Much depends on the shape of the distribution and the size of the class interval, and, in many cases, only an approximate modal value can be obtained. Hence, the mode is rarely used in practice.



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However, it may be calculated using the following formula.

$$\text{Mode} = L + \left(\frac{fa}{fa + fb} \times CI \right)$$

where L represents the lower limit of the modal group,
 fa represents the frequencies in the group following the modal group,
 fb represents the frequencies in the group preceding the modal group,
 CI represents the class interval.

Example

In changing over from a piece-work payment system (i.e., payment in relation to the number of items actually produced) to an inclusive day-rate payment system, many problems are encountered. One of these problems is to ensure that the agreed output units on the new day-rate system reflect the true average figure of output which was being achieved on the old piece-work system.

Data were collected over a period of time for a group of employees from a particular packaging operation. These data are displayed in the following table. From an initial inspection of the data, it is possible to identify the mode as 631. One should consider whether this is accurate or whether the spread of the data is such that the approximation is of little use to management or the unions, both of whom require a more accurate figure if negotiations are to be worth while.

Frequency of productive outputs

Output units/hour	Frequency	Output units/hour	Frequency
600	1	622	7
602	1	624	7
604	3	626	9
606	2	627	8
608	2	629	10
609	3	631	16
611	2	633	7
613	4	635	6
614	4	636	5
615	3	638	4
617	4	640	2
618	5	643	2
620	8		

The next stage is to retabulate the data into a grouped frequency table as shown below.

Grouped frequency table

Inspection of this table shows that the modal group is 625–629, and hence L , the lower value of the modal group, is 625.



China agent arrives to discuss manufacturing in China, but still another legal document has to be sign before they can operate in China.



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Output	No. of operatives	Output	No. of operatives
600–604	5	625–629	27
605–609	7	630–634	23
610–614	10	635–639	15
615–619	12	640–644	4
620–624	22		

The value of fa is obtained from the frequencies in the group *following* the modal group, i.e. 23. The value of fb is obtained from the frequencies in the group *preceding* the modal group, i.e. 22. The class interval, CI , used to group the productive output figures is four. If these values are now substituted into the formula on page 23, then

$$\begin{aligned}\text{Modal value} &= L + \left(\frac{fa}{fa + fb} \times CI \right) = 625 + \left(\frac{23}{23 + 22} \times 4 \right) \\ &= 627 \text{ units of output.}\end{aligned}$$

This is clearly a much more accurate figure than that which might have been obtained from the ungrouped data. In addition, several advantages are also gained by using the mode as a measure of location.

Advantages and disadvantages of the mode

Advantages

1. It is easy to understand.
2. It is not affected by open-ended classes or extreme values.
3. It is not necessary to know the values of all the items in the distribution in order to calculate the mode.

Disadvantage

1. Its major **disadvantage** is that, because of its imprecision, its utility in calculations requiring a high degree of accuracy is limited, particularly if the distribution is *bimodal* or widely dispersed.

INDEX NUMBERS

When we compare two things, in which a *relative* change in one is expressed as a percentage of another, we are constructing an index number. However, index numbers not only express binary comparisons, i.e., comparisons of two things, but they are more often used to express a *comparison in series*. Providing the data is homogeneous, countless numbers of factors can be compared, such as productivity, prices, sales, days lost through sickness, industrial accidents, population changes, usage rates and, of course, the index which is probably best known – the Retail Price Index (RPI).

An index number is similar to an average in that it condenses a multivariable situation into a single number. The main feature of the index is that once a base index has been



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Searl states as from today, Tuesday 11th August 2015: all legal documents will carry the Trade Mark behind my name as show above. Searl say that some pages carry half width of type with the other half carry photo information of what the companies have done, doing and planning, which shall continue.

Establish, it may be used to make comparisons with the **starting base**. Searl say that **generally**, the **starting base** is given the value of **100**; hence, if the **current price index number is 132**, the **initial index** has increased by **32 points** since the **initial index base** was established. Searl say that a significant and increasingly important use of **index numbers** is their use as the **basis** for **wage negotiations** as well as helping to **formulate** changes in **government economic policy**, such as changes in **direct** and/or **indirect taxation**.

Searl say that the **Index of Retail Prices** monitors the percentage change in the spending of a typical family on foods and services. The method of **construction** and **calculation** of the **RPI** can be appreciated more easily by considering a very large and representative '**basket**' of goods and services in **January** of each year, and then comparing the cost of this same '**basket**' in each of the following **12 months**. Searl quote this because **SEARL GLOBAL TECHNOLOGIES** responsibility would have to see **food** and **drink** was available in the different factories within its organization. The percentage increase in the **total cost** since **January** can then be calculated. Searl say that the '**basket**' is changed each **January** to ensure that it is as up-to-date as possible, but the **percentage changes** in the **cost** of successive '**baskets**' are linked together in order to produce a continuous series of **percentage changes** since the **RPI** was created.

Degree of importance:

Searl agrees that some items in the '**basket**' account for a much **greater percentage** of the family budget than others. Searl say that for an example, most **households** spend far more on **bread** and **meat** than they do, say, on **soap**. Searl points out an important issue here; therefore, a **10% increase** in the **cost** of **bread** will clearly add more to the **cost** of the '**basket**' than a **10% increase** in the **cost** of **soap**. Searl say that to allow for this **relative** importance of the various items in the '**basket**', each **percentage change** in price is given a **weight** to represent its **relative importance** in the **household expenditure** of the previous **12 months**. The **percentage changes** in **price** are then **multiplied** by these **weights** before being **averaged**.

Family Expenditure Survey:

Searl say that the **groups** that comprise the goods and services in the **RP1** are derived from the results of the continuous **Family Expenditure Survey**. Searl states that this **survey** is designed to provide information for a number of purposes, only one of which is the **weighting basis** for the **RPI**. The survey Searl say covers a sample of households throughout the UK. Searl understand this as he had received such surveys over the years. Searl say that there are, however, **two groups** or **classes** of households which are not represented.

1. Households with a total income above a predetermined level:
2. Households in which at least three-quarters of the total income is derived from social security payments, pensions and other transfer payments.

Searl confirms that excluding these classes, each year about 10,000 households provide detail records of their individual expenditures. Searl understand that these records are then summarized and used for weighting purposes. On the next page Searl will present what weighting means. Searl survey return just had his name, address and date of birth and all questions marked N/A; not one question actually applied to Searl, as Searl could not afford such luxuries as those, due to the fact that he was trying to replacing his stolen goods, took all his money.

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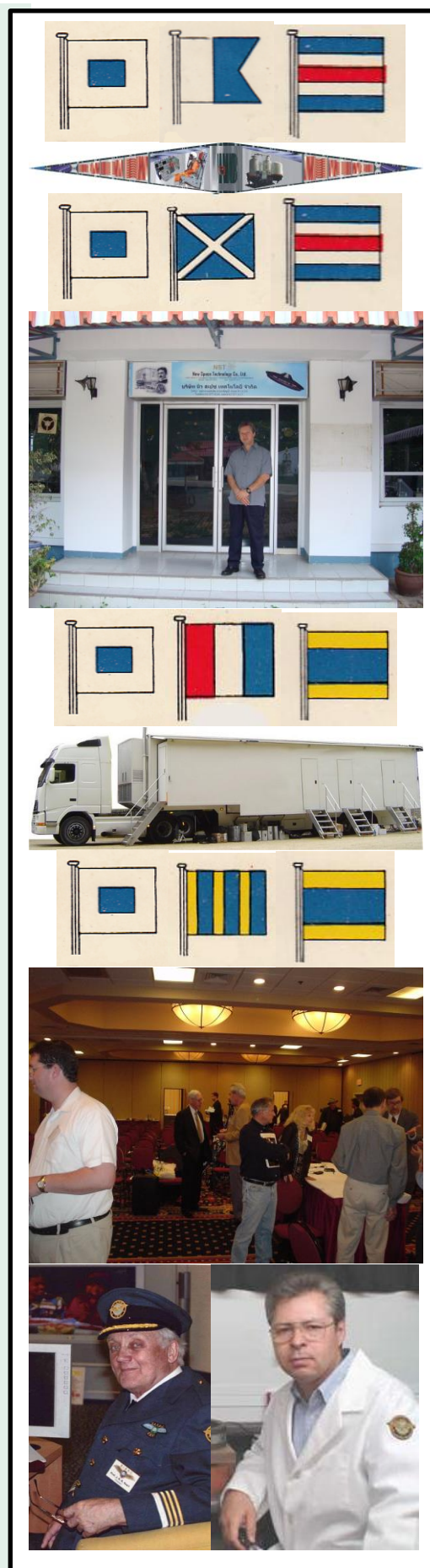
The weighting

The following abbreviated table indicates the main groups, and some of their individual constituents, from which the RPI is compiled.

The weights used in the 1982 Index were as follows:-

Group	Typical members with individual weights	Total weights for each group
Food	Bread(11), flour(1), eggs(5), cheese(6), milk, fresh(18), sweets and chocolates(14) jam(1), tea(3)	206
Alcoholic drink	Beer(47), spirits and wines(30)	77
Tobacco	Cigarettes(37)	41
Housing	Rent and mortgages(77), rates(41), DIY materials(15)	144
Fuel and light	Coal(8), gas(20), electricity(28)	62
Durable household goods	Furniture(14), radio and TV(10)	64
Clothing and footwear	Women's outer clothes(22), children's underclothes(4)	77
Transport	Purchase of vehicles(58), insurance(9), petrol(46)	154
Miscellaneous	Books(4), soap(4), toys(5)	72
Services	Telephone(16), postage(2), domestic help(3)	65
Meals bought and consumed outside and inside the home		38
Total (all items)		1000

(From the *Department of Employment Gazette*, March 1982.)



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Use of index numbers

Let us assume that the current Index of Retail Prices is reset at 100. At a later date – four months – and assuming that the contents, services and quantities of the 'basket' remain unchanged, the new index figure can then be calculated in the following manner.

$$\text{Index} = \frac{\text{Current total price}}{\text{Original base index figure}} \times 100$$

or

$$\text{Index} = \frac{\sum p_n}{\sum p_0} \times 100$$

This gives a simple aggregative index.

To calculate an index by a weighting method use the following steps.

1. Decide the items to be used in the index and their respective quantities and price per unit.
2. Calculate the total cost for each item in the index.
3. Sum the total cost column to give the current total cost.

Example

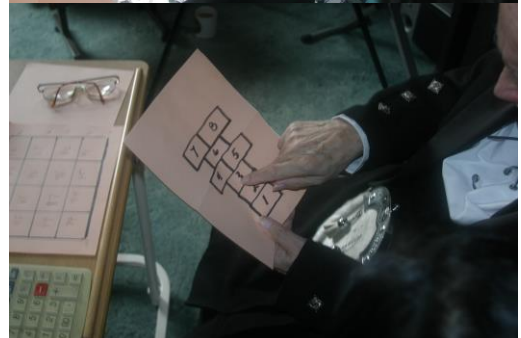
The personalized Index of Retail Prices for a hypothetical family is given below for 1980, with the 1981 prices shown in brackets.

Item	Quantity	Unit price (£)	Total expenditure (£)
Meats	4 kg	2.90(3.20)	11.60(12.80)
Vegetables	4 kg	0.10(0.12)	0.40(0.48)
Fish	1.5 kg	1.90(2.20)	2.85(3.30)
Petrol	45 l	0.34(0.38)	15.30(17.10)
Mortgage	1	100.00(90.00)	100.00(90.00)
Energy	1	12.00(15.00)	12.00(15.00)
Household goods	1	3.80(4.60)	3.80(4.60)
Services	1	9.80(10.40)	9.80(10.40)
			155.75(153.68)

The 1980 figure of 155.75 is therefore given an index base of 100, using the formula:

$$\frac{153.68}{155.75} \times 100 = 98.9.$$

The base year quantities, i.e., those for 1980, are used to construct this index. These quantities are denoted by q_0 . In other words, a *weighted* aggregative index is obtained in the form suggested by Laspeyres. The formula for this is:



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Laspeyres' Index

$$= \frac{\sum p_n q_0}{\sum p_0 q_0} \times 100$$

where p_n = the new price,
 p_0 = the base year price.

To take account of a change in quantity, an index suggested by Paasche would be used. The formula for this is:

Paasche's Index

$$= \frac{\sum p_n q_n}{\sum p_0 q_n} \times 100$$

Some examples of these weighted aggregative indexes are shown below.

By taking four items from the 'basket' and using the government Index of Retail Prices the following table is obtained.

Item	Price (1980) (£)	Price (1981) (£)	% change	Price relative	P.R. × Weight
Bread	0.32	0.35	$35/32 \times 100$ = 109	109	15
Coal	3.50	4.20	120	120	15
Postage	0.10	0.12	120	120	3
Beer	0.45	0.52	116	116	44
Totals					77
					8899

Now, if the price relative of 1980 (Year 1) is taken as 100, then the weighted base figure would be $100 \times 77 = 7700$. So the index number has increased by $8899/7700 \times 100 = 115.57$ (-100) = 15.6 points.

In Laspeyres' Index the quantity involved does *not* change from the base year. Laspeyres' formula and Paasche's formula are calculated below using the data in the following table.

	Prices		Quantities	
	1980	1981	1980	1981
Bread	32	35	10	10
Coal	350	420	100 kg	75 kg
Postage	10	12	8 letters	6 letters
Beer	45	52	12 pints	8 pints



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Laspeyres' formula

$$= \frac{(35 \times 10) + (420 \times 100) + (12 \times 8) + (52 \times 12)}{(32 \times 10) + (350 \times 100) + (10 \times 8) + (45 \times 12)} \times 100$$

$$= \frac{43\,070}{35\,940} \times 100 = 119.839$$

Substituting the change in quantity for the given year using **Paasche's formula**, we obtain

$$= \frac{(35 \times 10) + (420 \times 75) + (12 \times 6) + (52 \times 8)}{(32 \times 10) + (350 \times 75) + (10 \times 6) + (45 \times 8)} \times 100$$

$$= 119.815$$

There is obviously little to choose between the Laspeyres and Paasche formulae except that Laspeyres' uses *base year* quantities, and the *given year* quantities do not have to be frequently updated.

Laspeyres' Index tends to overestimate the change, while Paasche's Index tends to slightly underestimate the change. It does not really matter which is used except that its use must be consistent, i.e., like must be compared with like. Other indexes, which will not be discussed here for they are too complex, include those of Drobisch and the Ideal Index of Fisher.

Example

A cost analyst with a petroleum company is asked to compile an annual index for the cost of drilling an oil well for each year since 1970, with 1971 as the base year. In 1971 the cost of drilling was made up of approximately 60% labour and 40% materials, and it is assumed that the following data adequately represent these elements of costs.

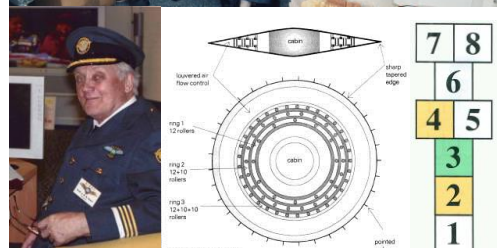
Year	Mean hourly earnings (£)	Price index for materials
1970	2.41	98.8
1971	2.58	100.0
1972	2.75	102.6
1973	3.00	108.5
1974	3.28	116.7
1975	3.58	119.0

(Cambridge A-level Business Studies)

1. Calculate the indexes for total drilling costs for each year.
2. What is the percentage increase in drilling costs between 1970 and 1975?

Solution

With 1971 as the base year (= 100), the increase in wages is expressed as an increase on the 60% and the increase in materials as an increase on the 40%. For example, the 1975



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earnings equal 3.58. Therefore $3.58/2.58$ (the base year) $\times 100$ equals 138.8. If this is the increase on 100, the increase on 60(%) is $138.8/100 \times 60$ which equals 83.3.

A table can be constructed to show the increases as follows.

Year	Wage	Wage relative as		Material		Com-
		100 and 60	index	as 40 %		bined
1970	2.41	93.40	56.04	98.80	39.52	95.56
1971	2.58	100.00	60.00	100.00	40.00	100.00
1972	2.75	106.60	63.96	102.60	41.04	105.00
1973	3.00	116.30	69.78	108.50	43.40	113.18
1974	3.28	127.13	76.28	116.70	46.68	122.96
1975	3.58	138.80	83.26	119.00	47.60	130.86

The percentage increase in drilling costs is $130.86 - 95.56 = 35.3$ and $35.3/95.56 \times 100 = 36.9\%$.

Problems associated with weights and Indexes

Although the Index of Retail Prices should not, strictly speaking, be treated as a cost of living index, since the cost of living is determined essentially by an individual's idiosyncracies and personal expenditure, the RPI is widely used in salary and wage negotiations. One of the main concerns of union negotiators is that the weights in the index may or may not reflect the expenditure patterns of their members. For instance, if an item is weighted less than an individual spends proportionately on it, and the price of that item increases more rapidly than the others in the index, the effect will be less on the index than it will be on their member's wage packet. For example, a man taking home £100 per week (nett) with a total accommodation cost of £20 (20%) would, in index language, weight his expenditure on housing at 200 (total weights in the index = 1000). If we assume that the weight given to housing in the current year index is 130 or 13% then this is equivalent to £13 in the member's take home pay, yet he is spending £20 on this item. If total housing costs were to increase by, say, 25% it would mean that an extra £5 would have to be found by this individual – a cost of living increase of 5%. The Retail Price Index would show an increase of only:

$$\frac{130}{1000} \times \frac{25}{100} = 3\%$$

Although it is not a simple task to construct an index which realistically corresponds to a particular group, it is not too difficult to consider the weights in the groups which comprise the RPI and the price changes of the items concerned, and to make some judgement about the appropriateness of an increase in the RPI. While it may be argued that future price increases cannot be forecast with absolute accuracy, there remains a need (from a negotiator's viewpoint) to make



Engineers have come a long way in flight technology, some of which have now gone. We are also planning to change flight technology to that of the DISC shape craft termed the I-G-V.

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Predictions of future increases. As Searl understands it; as an example, in the mid-seventies, some labour relations agreements contained escalator clauses and threshold levels in an attempt to nullify the damaging financial effect which the sudden change in house prices caused. Searl say that the use of **trend analysis techniques** is becoming increasingly important. One such method is that of moving averages;

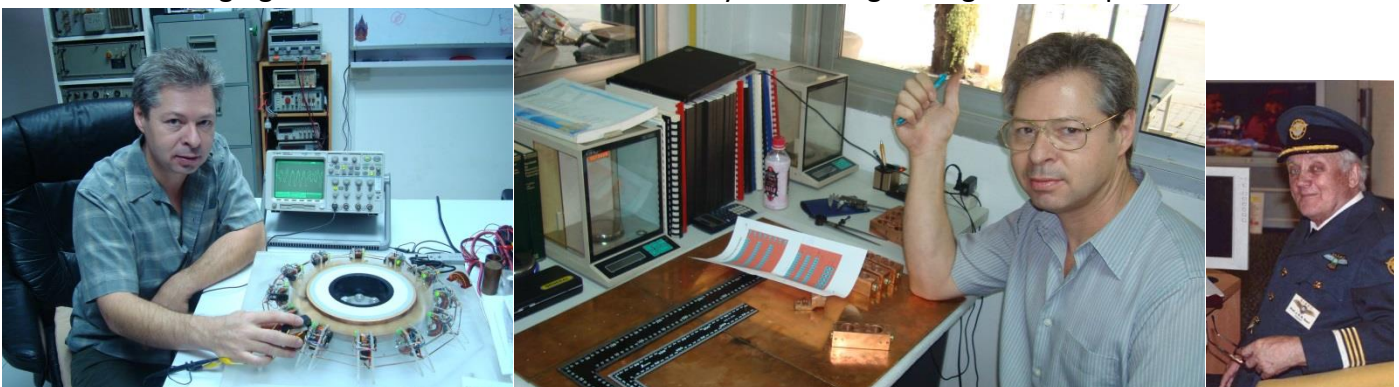
MOVING AVERAGES:

Searl explains that a moving average may be defined as the average of a consecutive set of **n** observations, where **n** is some convenient number. Searl say that if trends are to be detected or an interest is shown in the general pattern of growth of some particular factor, then a moving average (**which is an artificially construction time series**) may well be easier to understand and construct than **mathematical equations** of time series. Searl agree that in a moving average each annual (**or monthly, weekly or even hourly**) figure is replaced by the mean of both itself and those values corresponding to a number of preceding and succeeding periods. Searl say that in a five-year moving average, each annual figure is replaced by a mean which is calculated by adding the value of the **year under examination**, Sear say that those values of the two **preceding years** and those values of the two **succeeding years**. Searl states that the longer the period of time over which the **average** is calculated, the **smoother** the **curve** will be when a number of these **averages** are plotted against the time scale. Searl claims: that essentially a **moving average** tends to 'smooth out' the **peaks** and **troughs** which occur as a result of **cyclical**, **seasonal** or other periodic variations. Searl feels that the factor under consideration might be profit, turnover or sales per employee, production levels of **S.E.G.s** or hospital bed utilization, in fact Searl say almost anything which can be quantified and not necessarily on an annual basis. Searl appreciate that the greater the value of **n**, the smoother the graph becomes, but Searl warns you with the disadvantage that the indication of the trend becomes less noticeable.

Searl say that a graph on which a number of variable values are plotted against time is called a **historigram** (i.e. a **historical record, not to be confused with a histogram**). Searl points out that if the averages are calculated over an even number of periods, say, **8 years** or **12 months**, then the problem arises that the **moving average** will have to be plotted between successive years or months. Searl suggest overcoming this difficulty, it is usual to 'centre' the values by calculating a two year **moving average** at least initially.

Example:

Searl say that the directors of **SEARL MAGNETICS CORPORATION** are considering **diversification** as part of their **corporate strategy**. Searl say however, they are unsure of the degree of **diversification** which might be considered **prudent** and they therefore wish to have an idea of the trend of their **S.E.G.s** sales. Searl say that the following figures are available from which five-year moving averages can be plotted.



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Year	SEG sales 000s	Five year moving total	Five year moving average
1965	15.6		
1966	16.8		
1967	17.2	82.9	16.58
1968	17.0	85.7	17.14
1969	16.3	86.2	17.24
1970	18.4	88.6	17.72
1971	17.3	89.4	17.88
1972	19.6	91.5	18.26
1973	17.8	93.6	18.72
1974	18.2	96.5	19.30
1975	20.7	95.2	19.04
1976	20.2	95.0	19.00
1977	18.3	94.7	18.94
1978	17.6		
1979	17.9		



Searl technology has started R&D here in San Diego, the land of the future technology. We shall win because we are determined.

Searl say that the two values at the end of the series are lost, which is a slight disadvantage, particularly when the series is very short. Figure 6S shows the graph which produced when the moving average and the original data are plotted against the time.

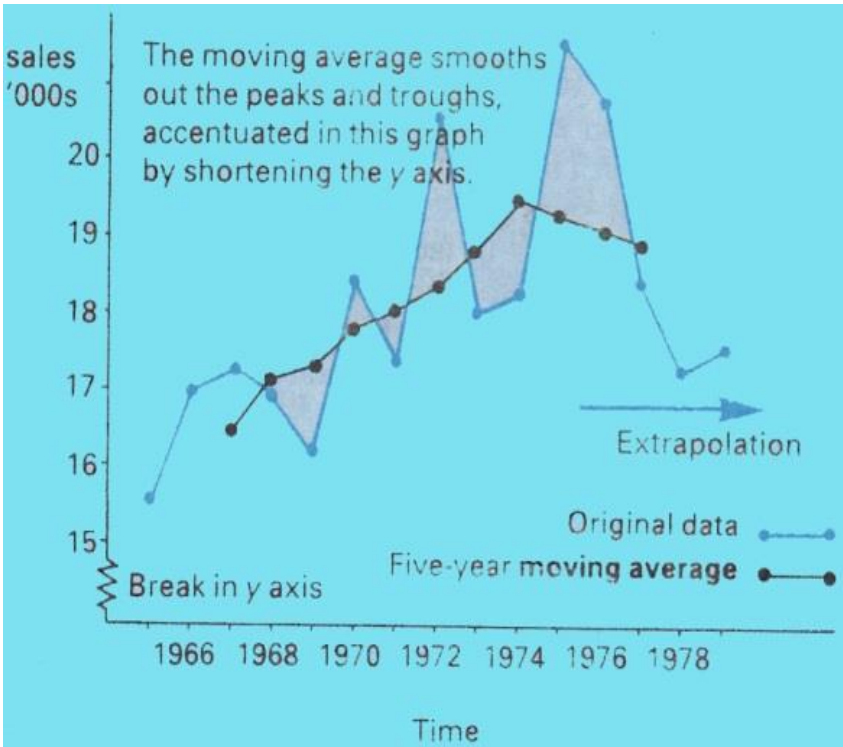


Figure 6S: Searl Magnetic Corporation five year moving averages.



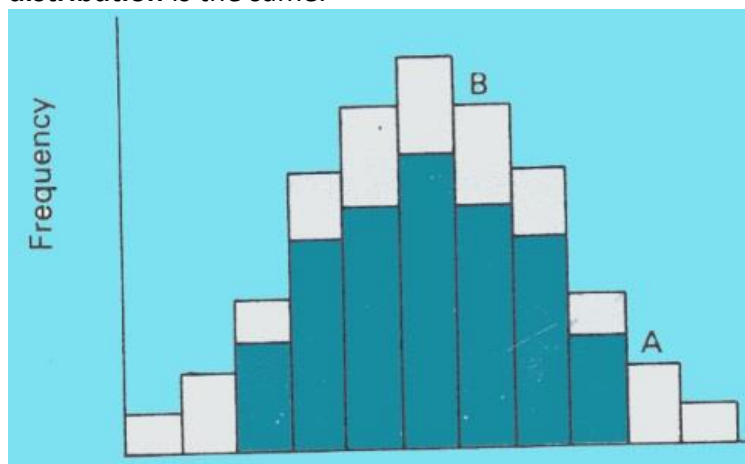
Searl say having determined the trend, another technique which can be used in an attempt to predict the values associated with future time periods is that of **extrapolation**. Searl say the basic problem associated with extrapolating is in assuming what the prevailing economic forces will be during the period under consideration. However, Searl mathematical models can be built which take **uncertainty** into account. Searl say these will be discussed more fully in another book or chapter within this document.

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Dispersion:

Searl say that the **measure** of location: **Mean**, **Median** and **Mode**: which Searl has already discussed earlier in this document provides **single numbers** which represent whole sets of **data**. However, Searl say, a major **characteristic** of any **distribution** is its **dispersion** or **spread** about a **central value** such as the **arithmetic mean**. Searl shows that **curve A** is **spread** more widely than **curve B**, although the **mean** of each **distribution** is the same.



Variable values

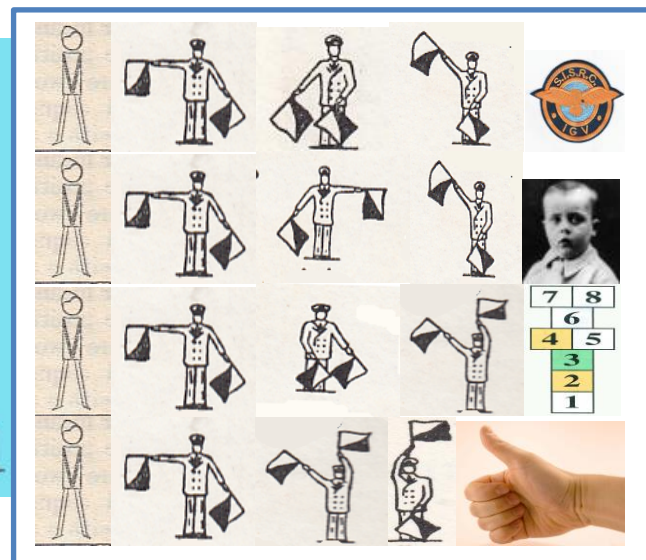


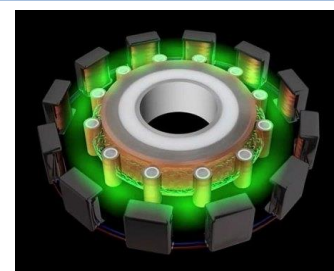
Figure P7S: Dispersion about the same mean:

Searl points out that it is frequently to his understanding that it's necessary to measure the degree of the dispersion, i.e. to attempt to determine the variability of the population.

Example:

Searl say let us suppose that a number of people are considering investing in one of four Companies namely: **Searl Global Technologies**; **Searl Aerospace Corporation**; **Searl Magnetics Corporation**; **Searl Transportation Division** and, as one of the criteria of success with which to evaluate the companies, they examine the profile of the market values of the companies £1.00 normal value shares, over the past ten years.

Year	1	2	3	4	5	6	7	8	9	10
Co A	1.25	1.55	1.60	1.60	2.00	0.85	1.70	2.15	2.40	1.90
Co B	1.70	1.90	3.40	2.60	1.20	0.50	0.60	0.90	2.20	2.00
Co C	1.10	1.20	1.30	1.50	2.00	2.00	2.00	1.90	2.00	2.00



Searl feel that the **investors** would, of course, be more **interested** in the **relative yield per share** rather than just the **capital change** in the **value** of the **share**, as far as their **investment decision making** is concerned. Searl thinks that even so, the **variability** of the **population** is quite **significant** and provides far more **information** than just the **arithmetic mean**, the **median** or the **mode**. (This base is square 3 mode).

Here are Searl results to above data: Searl state that the **mean market value** for the shares of each of these companies is **£1.70**. However, Searl say if the **investors** are unaware of the **spread** of the prices, they might believe (**at least on this information**) that there was little to choose between the companies. With the **dispersion known**, they would want to know why the **shares** of **company B** have varied from **50p** to **£3.40**, or why **Company C** appears to have been **fairly static** over the past **five years**. That is why Searl is so concern about companies generating the wrong image in hope to boast their image.

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In other words, it is necessary to be able to measure the dispersion around the mean. There are several measures used, in particular:

1. The range.
2. Quartile measures.
3. The mean deviation.
4. The standard deviation.



RANGE

The range is defined as the difference between the extreme values of the variable. In Company A above, the range would be $2.40 - 0.85 = 1.55$; in Company B it would be $3.40 - 0.50 = 2.90$; in Company C, $2.00 - 1.10 = 0.90$. Although the range is easy to determine and to use, it is a poor measure of variability because it accounts only for the two *extreme* values of the data. However, the range does tend to be used in quality control to keep a check on the variability of, say, raw materials.

MEAN DEVIATION

The mean deviation gives the average of all the deviations from the value of the arithmetic mean. If a set of numbers is taken, $x_1, x_2, x_3, \dots, x_n$ (where n can be any number), which constitute a sample with a mean \bar{x} , the amount by which the sample values depart from the mean can be written as $x_1 - \bar{x}$, $x_2 - \bar{x}$, $x_3 - \bar{x}$, \dots , $x_n - \bar{x}$. These amounts are the deviations from the mean. Calculation of the average of these different deviations gives the mean deviation, with the following formula.

$$\text{Mean deviation} = \frac{\sum_{i=1}^n (x_i - \bar{x})}{n}$$



The plus and minus signs of the deviations are ignored, since it is the absolute values of the numbers that are important, i.e., the size or magnitude of the deviations.

Example

A biscuit manufacturer uses machines which automatically pack 1 kg of assorted biscuits. To check the average weight delivered, sample packets are selected at regular intervals from the total population. The mean weight of each sample of ten can be found and the variability of the two machines compared by calculating the mean deviations from the mean



More equipment collected from customs from China. Well done China

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of each sample. Searl say the results from the two machines are as follows:

M/c A 1020 1030 1025 1040 1005 1010 990 1040 1005 985 (g)
M/c B 980 960 1030 1015 990 1025 1020 1020 985 1025 (g)

Solution

The mean weight of each sample is the sum of the variables divided by their respective number.

Thus, Machine A = $10150 \div 10 = \bar{x} = 1015$.

Machine B = $10050 \div 10 = \bar{x} = 1005$.

Machine B would appear to be the more accurate of the two. However, the deviations from the mean of Machine A are $5 + 15 + 10 + 25 + 10 + 5 + 25 + 25 + 10 + 30 = 160$; **mean deviation = 16**.

The deviations from the mean of Machine B are $25 + 45 + 25 + 10 + 15 + 20 + 15 + 15 + 20 + 20 = 210$; **mean deviation = 21**.

While Machine B appears to pack more closely to the required weight it is, in fact, far more erratic than Machine A. (It should be noted that the sign \bar{x} is used in formulae when dealing with *samples*, but the Greek sign μ is substituted when determining *population* properties.)

QUARTILES:

The semi-inter quartile range or quartile deviation:

gives the average amount by which the two quartiles, Q_3 and Q_1 , differ from the median, i.e.,

$$\text{Quartile deviation} = (Q_3 - Q_1) \div 2.$$

The **quartiles** are closely related to the median, which divides the distribution into two parts, each part containing an equal number of observations. The quartiles divide each of these two halves into two further equal parts. It can best be demonstrated by using a cumulative frequency curve as shown in Figure 8. The quartile deviation is comparatively

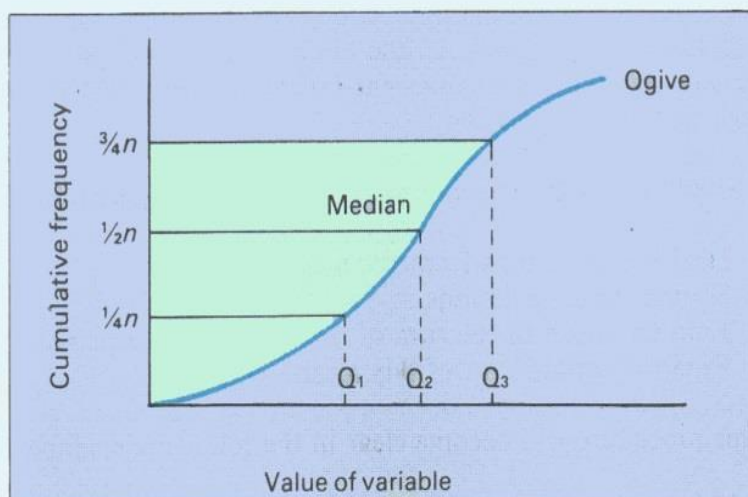


Figure 8. Determination of the quartiles



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easy to find and it is much more informative than the range. The ogive may be divided into 100 equal parts, each of these divisions being called a **percentile**. (Q_3 equals 75 percentiles, the median (Q_2) equals 50 percentiles and Q_1 equals 25 percentiles.) Percentiles are, however, used rather infrequently.

STANDARD DEVIATION:

The standard deviation is a much more useful measure of Dispersion than quartiles, for two main reasons:

1. The values of many populations are normally distributed.
2. It facilitates comparison between the values of *different* sets of data.

As has already been illustrated by the mean deviation, the extent of the *dispersion* of a given value is shown by the extent of its *deviation* from the mean of the values. In calculating the mean deviation, the signs of the negative deviations were ignored, but this difficulty of signs may be overcome by squaring the deviations. Since all the squared terms will then become positive, the final sum cannot be zero.

The squared deviations are then divided by one less than the number of items, to give the variance. The square root of this is the standard deviation. (Division by $n-1$ instead of n is important when n is small. When n is large, there is little difference.) The formula for this operation may be given as follows:

$$\sigma = \sqrt{\frac{\sum fd^2}{n-1}}$$

where d = deviations from the mean,
 n = total number of observations.

(It must be remembered that Greek letters are used for descriptions of populations and Roman letters for descriptions of samples. If the data contain *all possible* measurements of a particular phenomenon, then they may be regarded as a population.)

To find the standard deviation, the following steps are taken.

1. Find the deviations from the mean.
2. Square those deviations.
3. Find the mean of the sum of these deviations squared.
4. Find the square root of this mean.

This procedure will become clear in the following example.

Consider the following tabulated data which shows the weekly expenditure on food for 130 households.



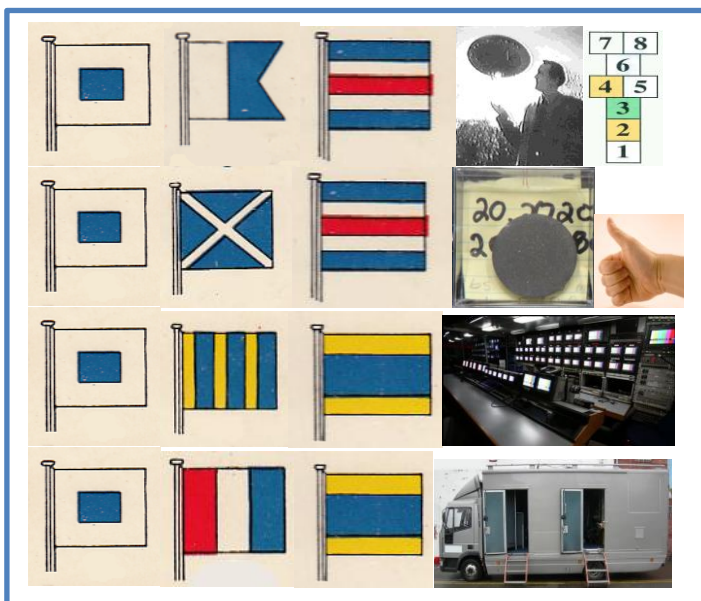
What will be will be? But alas it may not be what you wanted – heavy floods, water shortage. Do we today want that type of life, where there a solution to those problems – solution work hard and clean up the mess that you made first.

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Variable Value (x)	Frequency (f)	Frequency x variable (fx)	Deviation from mean (d)	d x f	fxd ²
\$40	10	400	15	150	2250
\$45	15	675	10	150	1500
\$50	25	1250	5	125	625
\$55	30	1650			
\$60	28	1680	5	140	700
\$65	13	845	10	130	1300
\$70	9	630	15	135	2025
	130	7130			8400

$$\text{Mean} = \frac{\sum fx}{\sum f} = \frac{7130}{130} = 55.$$



To find the standard deviation:

1. Square the deviations = 8400.
2. Find the mean of these deviations (the variance) = $8400 \div 130 = 64.6$.
3. Find the square root of this mean = $\sqrt{64.6} = 8.04$.

Therefore, the standard deviation is 8.04.

A shorter method of calculating the standard deviation can be used by *assuming* the mean and then correcting for the actual mean before the final square root is taken.

Example

It is required to find the mean and standard deviation of the following data, relating to the number of people per household in a survey of a district.

Number of people in household (x)	Frequency (f)	fx	x ²	fx ²
0	3	0	0	0
1	10	10	1	10
2	15	30	4	60
3	27	81	9	243
4	36	144	16	576
5	24	120	25	600
6	4	24	36	144
7	1	7	49	49
	120	416		1682

1. $\text{Mean } \bar{x} = \frac{\sum fx}{\sum f} = \frac{416}{120} = 3.467.$



Searl believes that you can buy any of these old flying machines, just think of powering one by the S.E.G. for show days. No fuel cost, what a show you could do. See what the S.E.G can do.

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2. The standard deviation formula of the last section is difficult to apply to this data because the mean is not a whole number. An alternative method is to square the x values instead of the deviations and correct for this afterwards. Sum of squared values = $\Sigma fx^2 = 1682$.

3. The **variance** is then:

$$\frac{1}{n}(\Sigma fx^2 - n\bar{x}^2) = \frac{1}{120}(1682 - 120 \times 3.467^2) = 1.999.$$

Note that the divisor $1/n$ is used here because the total frequency is large.

4. Standard deviation = square root of variance,
 $= \sqrt{1.999} = 1.414$.

Example

This example illustrates the use of **coding**, which simplifies the above procedures.

Find the mean and standard deviation of the following data which relates to the salary of 130 people.

Salary range	Mid-point x	y	Frequency z	f	fz	fz^2
1 000–2 000	1 500	–6 000	–6	1	–6	36
2 000–3 000	2 500	–5 000	–5	7	–35	175
3 000–4 000	3 500	–4 000	–4	11	–44	176
4 000–5 000	4 500	–3 000	–3	13	–39	117
5 000–6 000	5 500	–2 000	–2	19	–38	76
6 000–7 000	6 500	–1 000	–1	20	–20	20
7 000–8 000	7 500	0	0	23	0	0
8 000–9 000	8 500	1 000	1	13	13	13
9 000–10 000	9 500	2 000	2	13	26	52
10 000–20 000	15 000	7 500	7.50	7	52.50	393.75
20 000–40 000	30 000	22 500	22.50	3	67.50	1518.75
				130	–23.00	2577.50

Construction of the table

1. The mid-point of each range is used to determine the mean and standard deviation.

2. The x column is first simplified by subtracting some large number from each mid-point (equivalent to using a **working mean**). The number used here is 7500 because it has the largest frequency.

3. The y column is simplified further by dividing each value by 1000 (i.e., the z column).

4. The mean and S.D. of the z column are now calculated in the usual way.



Searl believes that all these old aircraft could be made to fly all electric power. Not burning any fuel. We will never know unless we first try. You can't ride 2 wheels you were wrong we can because someone tried.

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$$\bar{z} = \frac{\sum fz}{\sum f} = \frac{-23}{130} = -0.177.$$

$$\begin{aligned} \text{Variance of } z &= \frac{1}{n}(\sum fz^2 - n\bar{z}^2), \\ &= \frac{1}{130}(2577.5 - 130 \times 0.177^2) = 19.796. \end{aligned}$$

$$\text{S.D. of } z = \sqrt{19.796} = 4.449.$$

5. These values are now **decoded** to give the mean and S.D. of the original data.

$$\begin{aligned} \bar{x} &= 1000\bar{z} + 7500, \\ &= -177 + 7500 = \underline{\underline{£7323}}. \end{aligned}$$

In other words, multiply the mean of z by 1000 and then add 7500 – the reverse of steps 2 and 3 above.

$$\begin{aligned} \text{S.D. of } x &= 1000 \times \text{S.D. of } z, \\ &= \underline{\underline{£4449}}. \end{aligned}$$

The working mean of 7500 must not be added onto the standard deviation – it is a measure of *spread* and is unaffected if every observation is reduced by the same number.

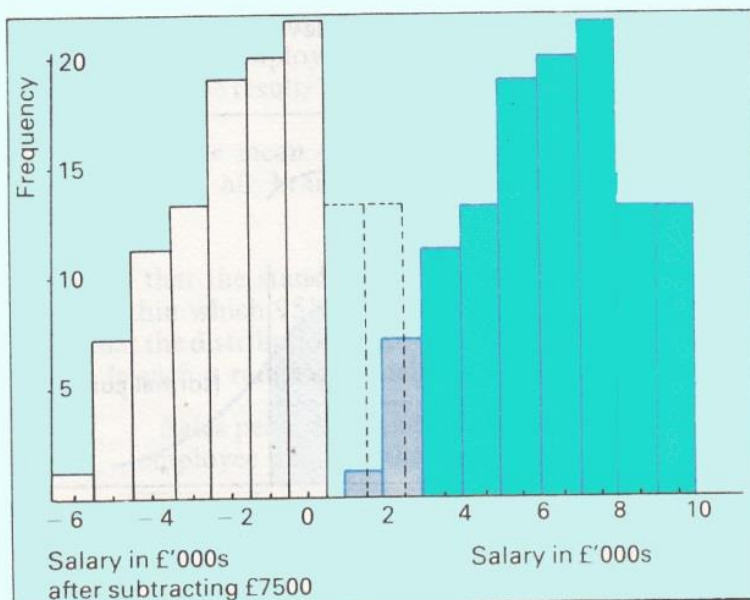


Figure 9. Distributions with the same standard deviation

NORMAL DISTRIBUTION

A distribution which is **symmetrical** about its mean and **bell-shaped** is said to be a normal distribution; occasionally it is also known as a **Gaussian curve**.

... - - - - / ... - - - - /
... - - - - / ... - - - - / ... - - - - //



**There are cars which need good electric motors and the S.E.G. to power them.
Save money don't burn fuel.**

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Searl states that in a normal distribution there are proportionately as many **negative phenomena** as there are **positive phenomena**. Searl say that in other words, the value of **y (the frequency)** is the same for **+ x** and for **- x** and therefore the height of the **curve**, at equal distances on either side of the **mean**, is the same. Searl say that (**more correctly, the normal curve is symmetrical about the ordinate $x = 0$**). Searl points out that the **curve** extends **indefinitely** in both directions. Searl say that if the **mean (μ)** and the standard deviation (**σ**) of a distribution are known, the **height** of the **curve (y)** can be calculated, as can the area under the **normal curve**. Searl say that it is fortunately, the area under the curve has already been computed and may be found in normal probability tables, as Searl shows here:

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	5000	5040	5080	5120	5160	5199	5239	5279	5319	5359
0.1	5398	5438	5478	5517	5557	5596	5636	5675	5714	5753
0.2	5793	5832	5871	5910	5948	5987	6026	6064	6103	6141
0.3	6179	6217	6255	6293	6331	6368	6406	6443	6480	6517
0.4	6554	6591	6628	6664	6700	6736	6772	6808	6844	6879
0.5	6915	6950	6985	7019	7054	7088	7123	7157	7190	7224
0.6	7257	7291	7324	7357	7389	7422	7454	7486	7517	7549
0.7	7580	7612	7642	7673	7704	7734	7764	7794	7823	7852
0.8	7881	7910	7939	7967	7995	8023	8051	8078	8106	8133
0.9	8159	8186	8212	8238	8264	8289	8315	8340	8365	8389
1.0	8413	8438	8461	8485	8508	8531	8554	8577	8599	8621
1.1	8643	8665	8686	8708	8729	8749	8770	8790	8810	8830
1.2	8849	8869	8888	8907	8925	8944	8962	8980	8997	9015
1.3	9032	9049	9066	9082	9099	9115	9131	9147	9162	9177
1.4	9192	9207	9222	9236	9251	9265	9279	9292	9306	9319
1.5	9332	9345	9357	9370	9382	9394	9406	9418	9429	9441
1.6	9452	9463	9474	9484	9495	9505	9515	9525	9535	9545
1.7	9554	9564	9573	9582	9591	9599	9608	9616	9625	9633
1.8	9641	9649	9656	9664	9671	9678	9686	9693	9699	9706
1.9	9713	9719	9726	9732	9738	9744	9750	9756	9761	9767
2.0	9772	9778	9783	9788	9793	9798	9803	9808	9812	9817
2.1	9821	9826	9830	9834	9838	9842	9846	9850	9854	9857
2.2	9861	9864	9868	9871	9875	9878	9881	9884	9887	9890
2.3	9893	9896	9898	9901	9904	9906	9909	9911	9913	9916
2.4	9918	9920	9922	9925	9927	9929	9931	9932	9934	9936
2.5	9938	9940	9941	9943	9945	9946	9948	9949	9951	9952
2.6	9953	9955	9956	9957	9959	9960	9961	9962	9963	9964
2.7	9965	9966	9967	9968	9969	9970	9971	9972	9973	9974
2.8	9974	9975	9976	9977	9977	9978	9979	9979	9980	9981
2.9	9981	9982	9982	9983	9984	9984	9985	9985	9986	9986
3.0	9987	9987	9987	9988	9988	9989	9989	9989	9990	9990

... -- -- -- /
... -- -- -- / -- -- //



These images shown here could be power on the S.E.G. costing no fuel as you would not be burning fuel but riding on a magnetic wave. There is nothing impossible except that your mind makes it so.

Area under the normal curve. Searl would have coloured each column in a different colour but that would had taken Searl time to do. Cars could operate upon a magnetic wave if you are determined to make them, as Searl has stated so often on the air. It is your demand that creates tomorrow's technology.

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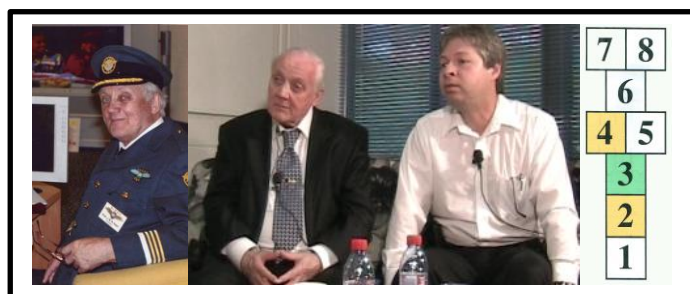
Searl say if you want to find the area up to 2.63: Just find the row starting with 2.6 and the column headed 0.03 Searl say you will find the corresponding entry is 9957, representing an area of 0.9957 or 99.57%. Searl warns you that he will be releasing tables simply in concept, as shown here upon his work which are not available in any other books, which some have already been enter in this document.

Searl say to find the area up to – 1.93: Searl say find the entry for 1.93, = 09732 and subtract from one = $1 - 0.9732 = 0.0268$. Searl say let's add to those another sample to help those who wish to learn: To find the 5% points for a two-tail test: Searl would understand that the area in each tail is $2.5\% = 0.0250$, so the area up to the positive critical value is $1 - 0.0250 = 0.9750$. Searl say look up 9750 in the body of the table – this occurs under the entry 1.96. The 5% points are – 1.96 and 1.96.

Searl say that if any frequency conforms to a normal distribution pattern, the area under the curve is always divided into certain proportions and, by knowing the standard deviation; it is easy to estimate this proportion (or probability, as the area under the curve equals one). Searl understand that there are some of you who do not understand terms which Searl actually use, therefore, Searl will drop one or two within this document so to help you to understand Searl. Here are just two samples for now: **Acceptance region:** The region of the sampling distribution in which the sample statistic value has to fail for the null hypothesis to be accepted (significance tests). The next one is: **Addition law:** the law of probability relating to the disjunction of two or more events: $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$.

Searl say that below is a list of the percentage area under the curve occupied by a given standard deviation either side of the mean.

- 1.00 standard deviations = 68.26% of the area:
- 1.64 standard deviations = 90% of the area:
- 1.96 standard deviations = 95% of the area:
- 2.58 standard deviations = 99% of the area:
- 3.00 standard deviations = 99.75% of the area:



Searl points out that it should be noted that the normal tables give the area under the curve up to the standard deviation in the positive direction, but Searl say that since the curve is symmetrical the value will be the same beyond the standard deviation in the negative direction (see Figure P10s).

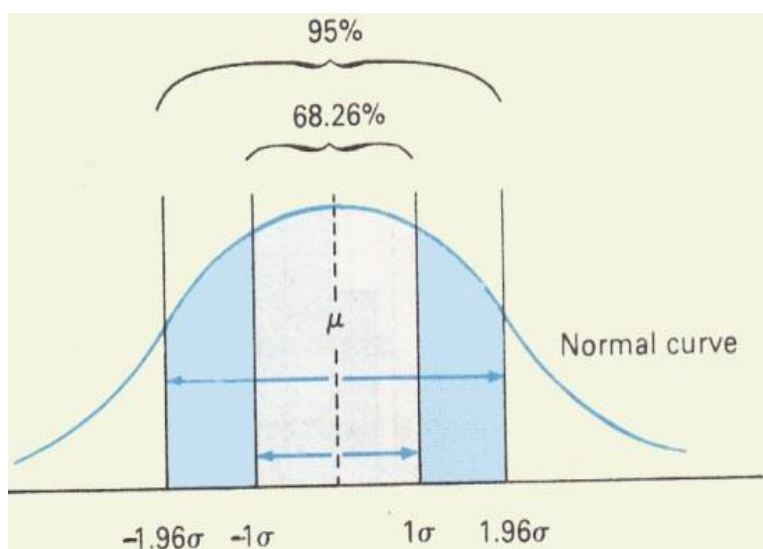


Figure P10S: The normal distribution curve:
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Searl say that Figure P11S, and from tables, two standard deviations above the mean occupy **0.9772** or **97.72%**. Therefore, **values greater** than **23.00** can be expected in **$1 - 0.9772 = 0.0228$ (2.28%)** occasions. Searl states that equally, the probability of getting a **result smaller** than **17.0** is also **0.0228**, and therefore the **probability** of getting a result **outside the limits 20 ± 3** is **$0.0228 \times 2 = 0.0456$** .

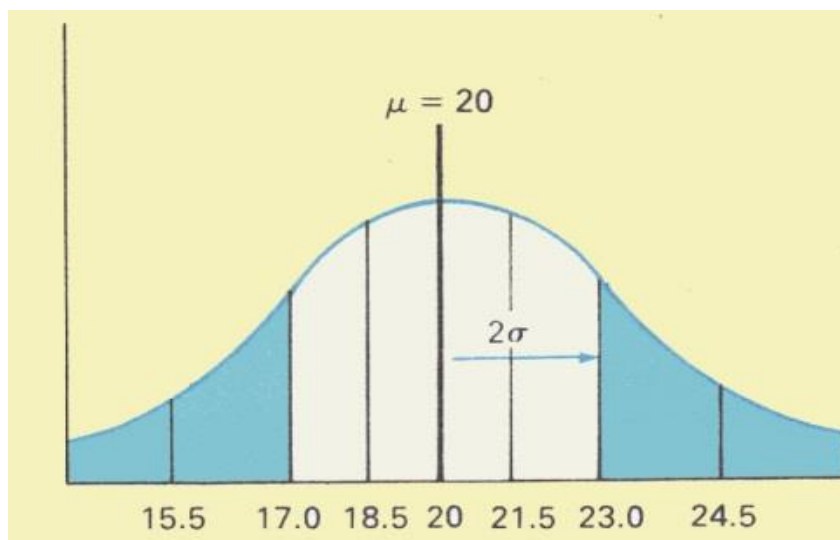


Figure P11S: The normal curve for $\mu = 20$ and $\sigma = 1.5$:

Example

If the life of a number of torch batteries is measured and found to have a mean value of 36 hours, and the life expectancy conformed to a normal distribution and one standard deviation was estimated to be four hours, then 68.26 % of the batteries would have a life of between 32 and 40 hours (36 ± 4).

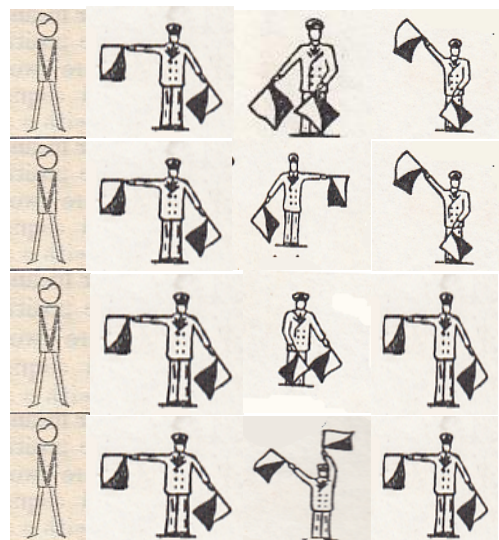
Example

A retailing company has ten shops, of the same size and sited in similar places in different towns, in an area approximately 80 kilometres square. The goods sold are perishable and the shops are each supplied once a week from a main depot. At the end of each week, stock remaining has to be written off, as it is uneconomic to return it or dispose of it over the counter. Weekly sales per employee in a test period of five weeks are recorded with the results below (to the nearest multiple of £5).

1. Calculate the mean overall weekly sales per employee, assuming that all branches have the same number of employees.

2. Given that the standard deviation is £7.7, calculate the range within which 95% of sales per employee should fall. Note that the distribution is approximately normal about the mean. Is such a range consistent with the data?

Sales per employee (£)	Number of occasions with that level of sales
60	2
65	4
70	8
75	15
80	10
85	7
90	3
95	1



We are here to try to clean up the pollution which you have and still doing. Someone must make a massive move to clean up this up, or we shall all end up in the same place, a hole in the ground sooner than later, more sooner than later.

1. Using the formula $\frac{\Sigma fx}{\Sigma f}$ gives $\mu = \text{£}76.5$.

Comparing dispersions

Example

$$(\text{CoV} = \text{S.D.} \div \text{mean.})$$

Norwegian Pine = $\frac{3}{31} = 0.097$.

Douglas Fir $= \frac{4}{36} = 0.111$.

Skewness

Let all things move by electric.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Probability:

Searl say that the laws of **probability** form the basis of nearly all **statistical theory**. Searl agrees that Decision making under conditions of **uncertainty** must take account of the **probabilities** of the various outcomes. Searl say that in spite of the fact that many **phenomena** are **random**; the study of **probability** can help in **predicting** the most likely overall picture of a situation. Searl points out as an example, the exact time of arrival of a customer in a supermarket is subject to **uncertainty**, but by **analysing** the **queuing** problem in terms of the outcome of a large number of events; the arrivals and departures; the most efficient type of service can be determined.

Probability is a measure of the **likelihood** of an event occurring. It always takes values in the range 0 to 1, zero corresponding to **impossibility** and one to **certainty**. For example, it is impossible for a bachelor to be married (by definition), which may be expressed as $P(\text{bachelor is married}) = 0$. Here the letter P is used as shorthand for 'the probability of'. For example, it is certain that London is the capital of England, expressed as $P(\text{London is the capital of England}) = 1$.

These are examples of *absolute* impossibility and certainty, i.e., the statements are true or false by definition or by factual content. For future events, it is virtually certain that the sun will rise tomorrow, although some people could argue that it should have a probability very close to one, but not exactly one because it might not happen!

In practice, values of zero and one are rarely encountered, most events being uncertain to a greater or lesser extent. Thus, a *probable* event will have a probability close to one, and an *improbable* event, a probability close to zero. Probabilities may be broadly classified under three headings.

Theoretical probability

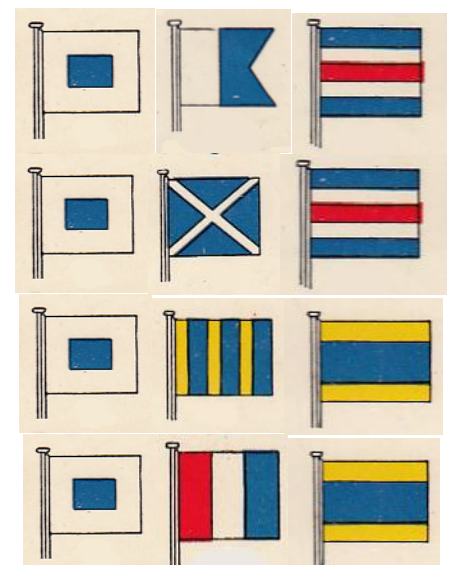
If a card is drawn at random from a pack of cards, it may be concluded, by reference to symmetry, that $P(\text{ace is drawn}) = 4/52 = 1/13$ because there are 52 cards in the pack, of which 4 are aces.

Statistical probability

A baker wishes to estimate the probability of a demand of between 100 and 110 loaves. Theoretical considerations offer no help in this case, but an investigation of past records reveals that this demand has been realized on 17 days out of the last 100 days. Thus, $P(\text{demand between 100 and 110}) = 17/100 = 0.17$. Obviously, this probability will be constantly updated as more past data become available.

Subjective probability

The chances of the Labour Party winning the next election would be considered by some to be very difficult to assess. A



B-24 Liberator, now long out of operations, but could it be powered all electric? Answer it could be if we wanted too for show days of the past.



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

theoretical estimate, based on the argument that there are four major parties, and therefore $P(\text{Labour winning}) = 1/4$, will be rejected on the grounds that the parties do not have equally likely chances of winning. Statistical considerations of past general elections may be similarly rejected on the ground that the data are irrelevant to the current situation. Gallup polls are notoriously susceptible to changing opinion and are only reliable close to the day of the election. Alternatively, a subjective estimate may conclude that $P(\text{Labour winning}) = 0.6$ – a measure of the individual's **degree of belief** or strength of conviction.

The *limitation* of this method of assigning measures is that another person might well assign a much lower probability to a particular event (especially, in this case, if he is a keen Tory). Subjective estimates are still useful in business applications, but a consensus from experts must be reached before any reliability can be given to the estimate. For example, oil companies need to determine the chances of a particular field being rich in oil and/or gas. They may well be satisfied with a subjective (but expert) estimate of the probabilities.

Definition

For **simple** events, the probability may be defined as:

$$\frac{\text{Number of equally likely favourable outcomes}}{\text{Total number of equally likely possible outcomes}}$$

Example

A promotion campaign offers a first prize of a car in a lottery competition. There are 1000 tickets available and a certain person receives five of them. Then $P(\text{winning the car}) = 5/1000 = 1/200$ because there are 1000 possible outcomes and five of these outcomes are favourable. Note the importance of the phrase 'equally likely' in the definition above. If one of the tickets had been omitted from the draw or if the selection of the winning ticket was not made at random, the probability given above would be erroneous.

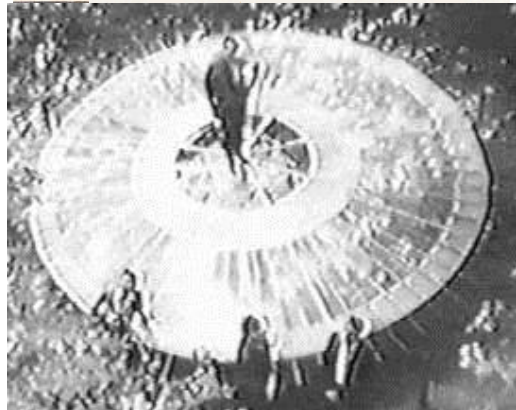
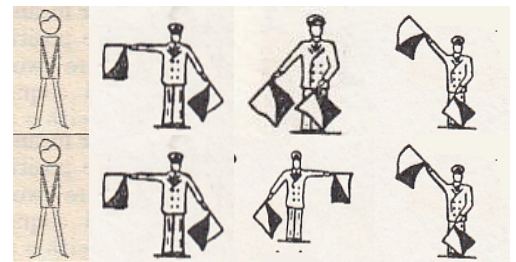
Note Probabilities are usually expressed as decimals, fractions or percentages. If the **odds** of an event are quoted as 5–2, this represents a probability of $2/7$, i.e., five outcomes are unfavourable while two are favourable, giving a total of seven outcomes. The use of odds will not be used further in this book because betting odds are *not* probabilities. For example, a horse which is quoted at 7–1 against in a race does not have a probability of $1/8$ of winning. Here the odds represent the intention of the bookmaker to pay back seven times the stake, plus the stake, if the horse wins.

LAWS OF PROBABILITY

Once the probabilities of simple events have been determined, the probabilities of **compound events** can then be calculated according to the following laws.

Complementary events

If the probability of rain tomorrow is 0.7, then the probability



The choice is yours. Both can be electric operation if you so wanted it to be so.

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SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Of no rain tomorrow will be $1.0 - 0.7 = 0.3$. Searl say that in general, if **A** stands for **occurrence** of an event, then its **complement**, **A**, represents the **non-occurrence** of the event. Searl therefore say that the first law of **probability** can be written as:

$$P(\bar{A}) = 1 - P(A) \text{ or } P(A) + P(\bar{A}) = 1.$$



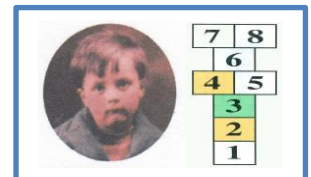
Searl say in other words, the **probability** of **A** not happening is one minus the **probability** of it happening.

Simple addition law:

Searl say that given that the **probabilities** of a **queue** containing **0, 1, 2** and **3 customers** are **0.4, 0.3, 0.2** and **0.1** respectively, then:

$$P(1 \text{ or } 2 \text{ customers in queue}) = 0.3 + 0.2 = 0.5$$

$$P(\text{less than } 3 \text{ customers in queue}) = P(0 \text{ or } 1 \text{ or } 2 \text{ in queue}) = 0.4 + 0.3 + 0.2 = 0.9$$



Searl say in other words, the **probabilities** are added. Searl say that this law only applies to **mutually exclusive events**: events which cannot **possibly happen together**. Searl say that the **four events** in this example are said to be **exhaustive** because the sum of the **four probabilities** is **exactly one**: no other events (**numbers in the queue**) are possible here. Searl say that in general:

$P(A \text{ or } B) = P(A) + P(B)$ Searl say that when the events, **A** and **B**, are **independent**. A test for **statistical independence** will be given later in this document. Searl just remember a few pages back he was discussing two-tail test, Searl think that he should give another example to help those who have a task to follow Searl writtens. Searl suggest to use **5% points** of **t-dsitribion** in this example:

V is the number of degrees of freedom: important to understand when we deal with robots:

V	1	2	3	4	5	6	7	8	9
	12.71	4.30	3.18	2.78	2.57	2.45	2.37	2.31	2.26
V	10	11	12	13	14	15	16	17	18
	2.23	2.20	2.18	2.16	2.15	2.13	2.12	2.11	2.10
V	19	20	21	22	23	24	25	26	27
	2.09	2.09	2.08	2.07	2.07	2.06	2.06	2.06	2.05
V	28	29	30	40	60	120	α		
	2.05	2.05	2.04	2.02	2.00	1.98	1.96		

... -- -- -- / ... -- -- -- /
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Searl say this information for the education of those who want to learn.

Searl may release another later in the effort to help you. Here is another word use by Searl:

Alternative hypothesis: The formulation of the population parameter(s) contradicting the null hypothesis. It is crucial to the determination of the critical region of a significance test.

Analysis of variance: A statistical technique, developed to my understanding by Fisher, to quantify and compasre the sources of variation in an experient.

Searl say when the events, **A** and **B**, are **Independent**. Searl will give a test for **statistical independence** latter.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Example

A machine can malfunction owing to any one of three kinds of potential fault – electrical, mechanical or operational – with probabilities of 2%, 1% and 0.5% respectively. Assuming that the types of failure are independent, calculate the probability that the machine will not function properly.

Solution

In this example, the machine can fail to function for a variety of reasons – mechanical failure alone, mechanical and electrical failure, electrical failure only, etc. It will be much easier to calculate the probability that the machine works.

$$P(\text{no mechanical failure}) = 1 - 0.02 = 0.98.$$

$$P(\text{no electrical failure}) = 1 - 0.01 = 0.99.$$

$$P(\text{no operational failure}) = 1 - 0.005 = 0.995.$$

Therefore, $P(\text{machine works}) = 0.98 \times 0.99 \times 0.995 = 0.9653$ (by independence and the multiplication law).

Therefore, $P(\text{machine fails}) = 1 - 0.9653 = 0.0347$ (or 3.47%).

Example

Three fair dice are thrown. Find the probability of obtaining at least one 6.

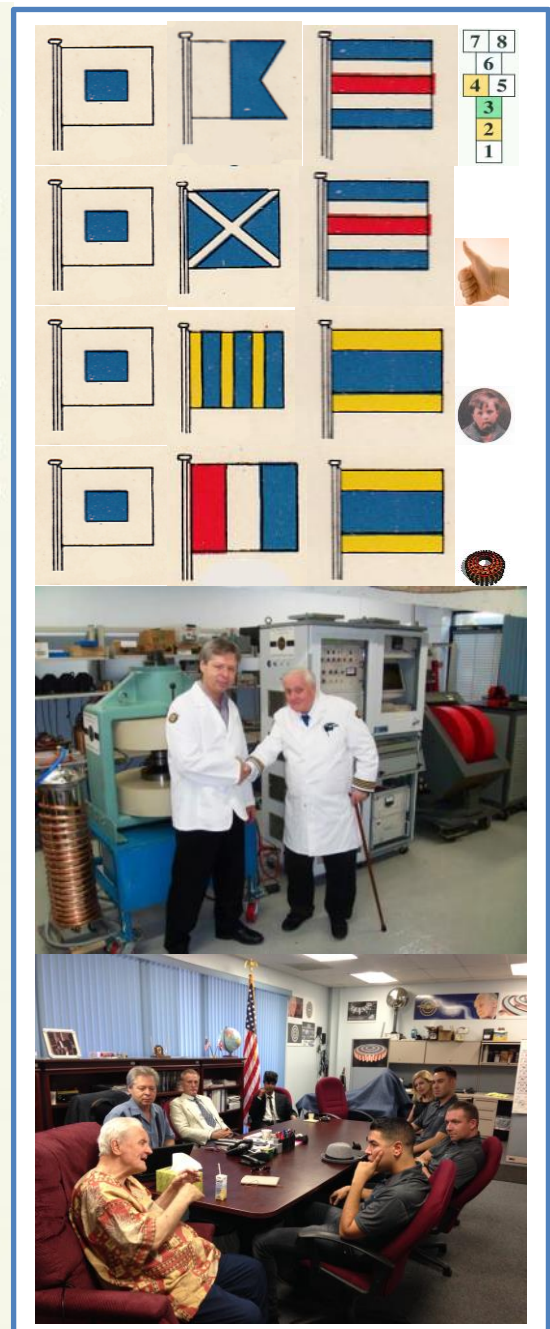
Solution

Again, it is simpler to calculate the inverse probability. The complement of at least one 6 is no 6s.

$$P(\text{not a 6 on a die}) = 5/6.$$

$$\text{Therefore, } P(\text{no 6s on three dice}) = 5/6 \times 5/6 \times 5/6 = 125/216 \text{ (by the simple multiplication law).}$$

$$\text{Therefore, } P(\text{at least one 6}) = 1 - 125/216 = 91/216.$$

**Example:**

Three fair dice are thrown. Find the probability of obtaining at least one 6.

Solution:

Searl say again, it is simpler to calculate the **inverse probability**. The complement of at least **one 6** is no **6s**.

$P(\text{not a 6 on a die}) = 5/6$. Therefore, Searl say $P(\text{no 6s on three dice}) = 5/6 \times 5/6 \times 5/6 = 125/216$. You may wonder what the hell is going on here. Searl will explain for those who really want to learn: it **means** $5 \times 5 \times 5 = 125$ and $6 \times 6 \times 6 = 216$. Well now you know that $5/6$ do not mean $5 \div 6 = 0.8333333 \times 0.8333333 \times 0.8333333 = 0.5787036$ which is not what is meant above. Now we can carry on with the good work, as to why the **S.E.G. works** or will **not work**, (**by the simple multiplication law**). Searl states therefore, $P(\text{at least one 6}) = 1 - 125/216 = 91/216$. Searl say that you way wonder where that 91 came into the picture, Searl will explain: $216 - 125 = 91/216$. Searl say: this is a major problem making sure you understand what is meant by their signs.

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SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Example:

Find the probability of being dealt three aces in a brag hand (three cards dealt to each person).

Solution

$P(\text{first card is an ace}) = 4/52.$

$P(\text{second card is an ace}) = 3/51$ because there are only 51 cards left in the pack, of which 3 are aces (assuming the first card was an ace).

Similarly, $P(\text{third card is an ace}) = 2/50.$

Therefore, $P(\text{all three cards are aces})$
 $= 4/52 \times 3/51 \times 2/50 = 0.000181.$

Note $P(\text{all cards are Kings}) = 0.000181.$

$P(\text{all cards are Queens}) = 0.000181$, etc.

Therefore, $P(\text{all cards of same type})$
 $= 0.000181 + \dots + 0.000181 = 13 \times 0.000181 = 0.00235.$

Searl says;

General addition law

When the events are not mutually exclusive, the simple addition law does not apply. For example, let A represent the drawing of an ace from a pack of cards and let B represent the drawing of a heart when a single card is chosen at random. Then, by counting the possibilities:

$P(A) = 4/52; P(B) = 13/52.$

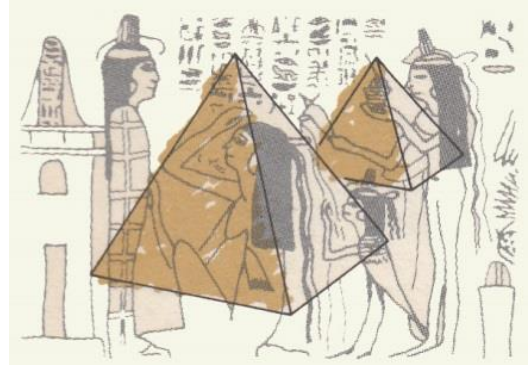
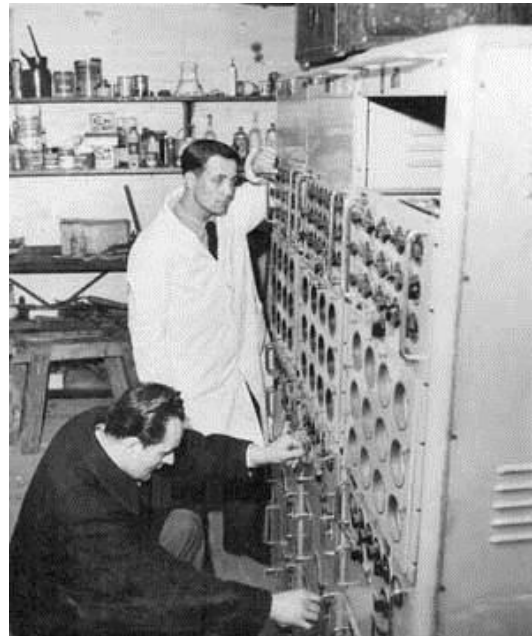
$P(A \text{ and } B) = 1/52$, i.e., the Ace of Hearts is drawn.

$P(A \text{ or } B) = 16/52$, i.e., the 13 hearts and the 3 other aces.

Here, the event A or B includes the possibility of *both* A and B occurring. Note that $P(A \text{ or } B)$ is not the sum of $P(A)$ and $P(B)$ because the Ace of Hearts must only be counted once. The general law is:

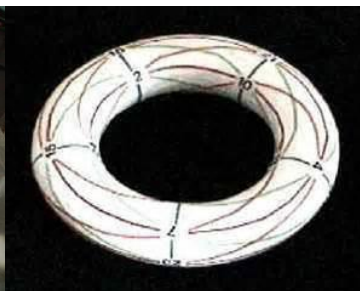
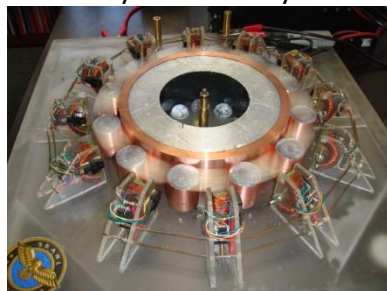
$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B),$
 i.e., $16/52 = 4/52 + 13/52 - 1/52.$

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Can you give the date period of this image and what does it relate to? Searl can. Even they play a part in the S.E.G.

Searl say that unless you can understand how **mathematicians functions**, you will never understand the design of the **S.E.G.** at this time even they do not understand how the **S.E.G. function**: where **Sir Isaac Newton** sometime around **1664** as the **bubonic plague** was hitting Britain; would had understand the **S.E.G. functions**. Searl has no doubt that **Albert Einstein** would have no problem either in understanding the **function** of the **S.E.G.**, as it **functions** within the **laws** of **nature**. In fact when Searl explains the **S.E.G.** these days he actually talks like **Sir Isaac Newton** would.



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

This equation reduces to the simpler addition law when the variables are mutually exclusive because in such a case $P(A \text{ and } B) = 0$, since A and B cannot happen together.

CONDITIONAL PROBABILITY

A survey of 100 people reveals the following taste preference for a particular product.

	Like	Dislike	Totals
Males	30	20	50
Females	40	10	50
Totals	70	30	100

This is an example of a 2×2 **contingency table** representing a two-way (**dichotomy**) classification of each of the two factors – sex and preference. Using M , F , L and D to represent male, female, like and dislike the following probabilities can be deduced.

$$P(M) = 50/100 = 1/2; P(F) = 50/100 = 1/2;$$

$$P(L) = 70/100 = 7/10; P(D) = 30/100 = 3/10.$$

But, $P(M \text{ and } L) = 30/100 = 3/10$ which is not the same as $P(M) \times P(L)$.

The reason for this is that the two factors are *not* independent – males are less likely to prefer the product than females. To quantify this difference, the notion of *conditional probability* is introduced. **Given** that a person is male, the probability that he will like the product is $30/50 = 3/5$. This is written as $P(L/M) = 3/5$, pronounced 'the probability of L given M '. Similarly, the following conditional probabilities can also be deduced: $P(L/F) = 40/50 = 4/5$; $P(M/L) = 30/70 = 3/7$ because, of the 70 people who like the product, 30 are male.

General multiplication law

In the above example,

$$P(M \text{ and } L) = P(M) \times P(L/M),$$

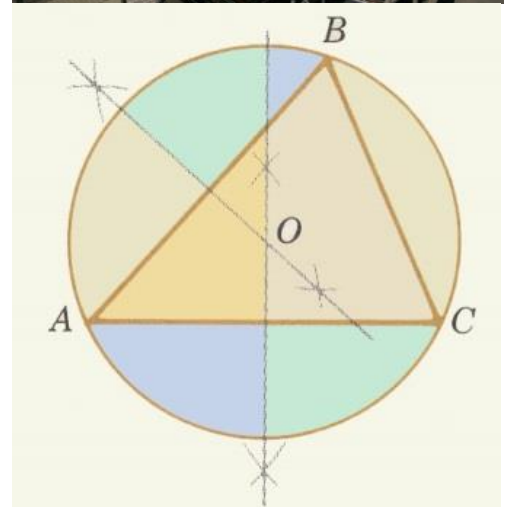
i.e., $3/10 = 1/2 \times 3/5$.

$$\text{Alternatively, } P(M \text{ and } L) = P(L) \times P(M/L),$$

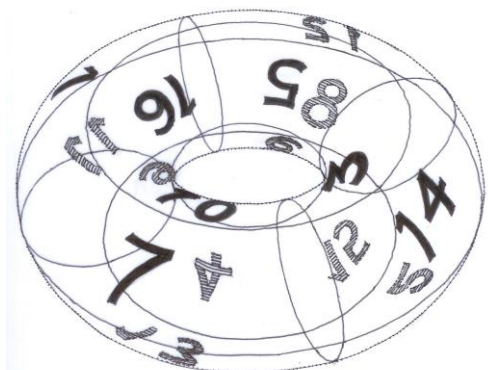
i.e., $3/10 = 7/10 \times 3/7$.

In general, $P(A \text{ and } B) = P(A) \times P(B/A) = P(B) \times P(A/B)$, i.e., the probability of A and B is the probability of A multiplied by the probability of B given A , or the probability of B multiplied by the probability of A given B . When the two events are independent, $P(A/B)$ is the same as $P(A)$, i.e., B is irrelevant to the occurrence of A and the above equation reduces to the simple multiplication law.

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Can you give a date to this image?



Searl knows how you have **slandered** him on the **internet** and other **media**. This document shows you Searl interest which covers many subjects. On page **184** Searl presented a question that shows his interest, have you answered it. Well Searl will for you: **The period of time was between 3000-350 B. C. Searl says circa 3000 B. C. Babylonians measure time. Pyramid kings. Egypt. 2000-1000 B.C: Code of Hammurabi. Babylonia. Medicine studied in Egypt. Chinese use magnetic compass.** Searl wonder if you knew that.

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SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Example:

Searl say that a **quality control procedure tests** all components coming off a production line. Searl say that it was found that **5%** of the **items** are **defective**. Searl states that the **inspection** can detect a **faulty component** with a **probability** of **98%** but, in **10%** of cases, will **classify** a **good component** as being **faulty**. Searl ask you to find the **proportion** of **components classified correctly**.

Solution

A faulty component may be represented by F , a good one by G , a correct classification by C and an incorrect one by I . The following probabilities can be deduced.

$$P(F) = 0.05, P(G) = 0.95.$$

$$P(C/F) = 0.98, \text{ hence } P(I/F) = 0.02.$$

$$P(I/G) = 0.1, \text{ hence } P(C/G) = 0.9.$$

By the multiplication law,

$$P(F \text{ and } C) = P(F) \times P(C/F) = 0.05 \times 0.98 = 0.049.$$

$$P(G \text{ and } C) = P(G) \times P(C/G) = 0.95 \times 0.9 = 0.855.$$

A correct classification is made in either of these two cases, so the probability of a correct decision is $0.855 + 0.049 = 0.904$.

TREE DIAGRAMS:

Searl say a simpler diagrammatic approach to the above problem is to tree diagram as in Figure P12S:

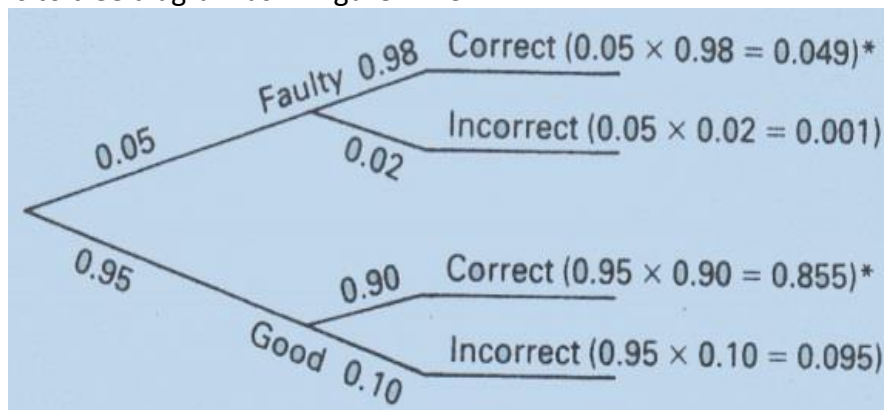


Figure P12S: A tree diagram:

Searl say that each **component** can be either be **faulty** or **good** and then **correctly** or **incorrectly classified**. The **probabilities** are shown along each branch and add up to one in each of the **three pairs**. Searl say that the **probabilities** along each path are first **multiplied** together to give the **probabilities** of the **four possible compound events**. As a check to the **arithmetic**, these should always **add** up to **one**. Searl say that the cases of **correct classification** are **asterisked** in the **diagram** and adding their **probabilities** together gives the answer to the **problem**. Reference to question on page **185** relates to **200 B.C. – 1200 A.D.** Circa **250 B.C.** Then there they were **Archimedes studies lever: hydrostatics: Mathematics: Euclid develops plane geometry: Eratosthenes** estimates **circumference** of the **earth**.

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Can you name this man and what made him famous? Searl Global Technologies will one day need to use this invention for their research work. As Searl will be explaining later.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

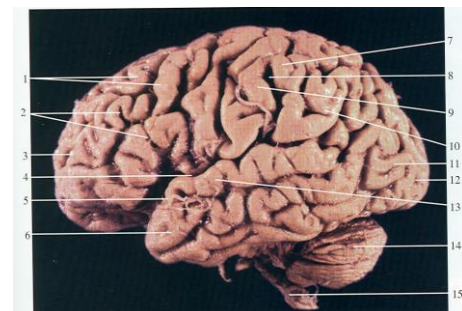
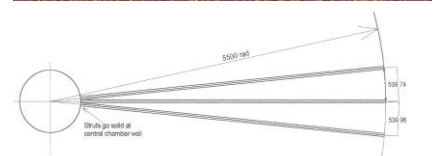
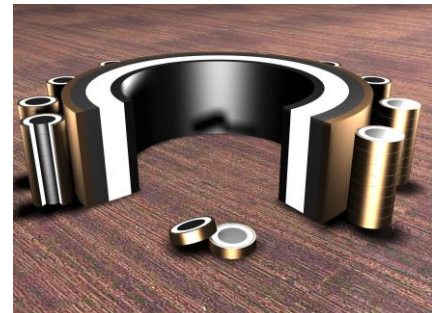
BAYES THEOREM:

Searl Magnetics Corporation has **three machines, A, B and C**, produce **60%, 30, and 10%** respectively of the factory daily output of **precision-made parts**. Searl say that the **proportion** of **components** which exceed the **tolerance limits** varies from **machine to machine**. **1% of machine As daily output** has to be **rejected** and, for **B and C**, the corresponding **percentages** are **5%** and **10%**. A component is check and found to be too large. What is the **probability** that it was produced by **Machine A**?

The *a priori* (initial) probability of the component being produced by Machine A is $P(A) = 0.6$ because 60% of all components are made by this machine. On the other hand, Machine A is the most efficient of the three machines and does not produce many rejects. These two facts have somehow to be balanced to give an *a posteriori* (final) probability of $P(A/d)$, where d represents the event of a faulty part being produced. The following tree diagram can be used.



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... - - - / ... - - - / ... - - - //



It takes a brain to invent things of value. Unfortunate some brains work on imagination. And the owners of them think that they are professors. Sorry, Searl don't think so. Invention

Figure P13s: A tree diagram of faulty components:

Searl state that a **faulty component** is produced in each of the **three asterisked cases**. Hence: $P(d) = 0.006 + 0.015 + 0.010 = 0.031$. Also, $P(A \text{ and } d) = 0.006$ (the top path in the diagram)

By the multiplication law,

$$P(A \text{ and } d) = P(d) \times P(A/d),$$

$$\text{i.e., } P(A/d) = \frac{P(A \text{ and } d)}{P(d)}$$

$$= \frac{0.006}{0.031} = \frac{6}{31} = 0.194 \text{ to three decimal places}$$



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SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Searl say although Machine A produces most components, the efficiency has reduced the probability the faulty component from **0.6 a priori to 0.194 a posteriori**. The additional information that the component is faulty has produced a change in the assumption that Machine A was the culprit. Similarly:

$$P(B/d) = \frac{P(B \text{ and } d)}{P(d)} = \frac{0.015}{0.031} = \frac{15}{31} = 0.484 \text{ (to 3 d.p.)}$$

and

$$P(C/d) = \frac{P(C \text{ and } d)}{P(d)} = \frac{0.01}{0.031} = \frac{10}{31} = 0.323 \text{ (to 3 d.p.)}$$

From the three *a posteriori* probabilities, Machine B is the most likely one to have produced the faulty component. This is the point of **Bayes theorem** – it allows the probabilities to be reviewed when extra information is given. A full formula for the theorem is not given here because the use of tree diagrams and the transposition of the multiplication law are easier to follow.

EXPECTATION

Suppose that a company has the option of selecting one of two policies with the following forecasted profits for the year to come.

Economic forecast	Profit (£'000s)		
	Good	Fair	Bad
Policy A	20	12	0
Policy B	10	9	8

The estimated probabilities of the economy being good, fair or bad are 0.2, 0.5 and 0.3 respectively. Which policy should the firm adopt? Decision making is facilitated by calculating the expected or average profit in each case.

Expected value of Policy A

$$= 0.2 \times 20 + 0.5 \times 12 + 0.3 \times 0 = 10.$$

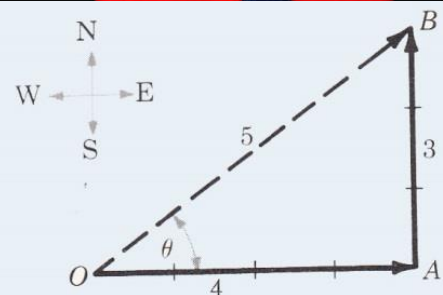
Expected value of Policy B

$$= 0.2 \times 10 + 0.5 \times 9 + 0.3 \times 8 = 8.9.$$

Policy A is to be preferred on this basis.

The use of expected values does have certain disadvantages. The firm may be unwilling to allow the possibility of zero profits and on this basis might decide to adopt a *minimax* approach (see *Operational Research* in this series), i.e., maximize the minimum possible profits in each of the two policies. This would mean that Policy B would be selected because a profit of at least £8000 is then guaranteed. The method of **expected values** is, nevertheless, a very useful tool as long as the risks involved in its use are appreciated.

... - - - - / ... - - - - - /
... - - - - - / ... - - - - - / - - - - - //



Morris must expect this kind of work. It all relates to research output.

Searl: knowledge 1946-1968: Legal: SEARL NO: 013787346: Legal: SEARLE NO: 013787451 – Beware!

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

On page 186 Searl asked if you could name that man and what was he famous for? For those who do not know, here is the answer: his name was Wilhelm Conrad Röntgen **1845-1923** born in Lennep, Rhenish Prussia. Professor: at Würzburg and Munich. Awarded the **1901 Nobel Prize**: in in **Physics** for his discovery of **X-Rays**. Which a number of companies require, likewise so will **Searl Global Technologies** as you will see why as this document grows.

Information Suppose that, in the last example, a firm of consultants is able to predict exactly the state of the economy for the year ahead. What amount of money would the firm be willing to pay for such information?

Economy	Policy chosen	Profit	Probability
Good	A	20	0.2
Fair	A	12	0.5
Bad	B	8	0.3

The original probabilities have to be used to calculate the expected profit because the firm does not yet know the decision of the consultants. Expected profit with perfect information:

$$= 0.2 \times 20 + 0.5 \times 12 + 0.3 \times 8 = 12.4.$$

This third profit figure exceeds the previous ones by £2400. This value is called the **value of perfect information**. If the consultant's fees are less than this value then the consultants are worth employing; if the fees are exactly £2400, it does not matter whether they are consulted or not.

In practice, information is never perfect, but the problems associated with **imperfect information** (which may, nonetheless, be valuable) are beyond the scope of this book.

Example

A baker must decide how many loaves to make each day. The loaves cost 15p each to make and are sold for 30p each. Unsold loaves are sent to a farm, for the pigs, and in this case the baker receives 5p per loaf, but the baker estimates that unsatisfied demand costs him 4p per loaf in loss of custom. From past statistics, the daily demand can be summarized as follows.

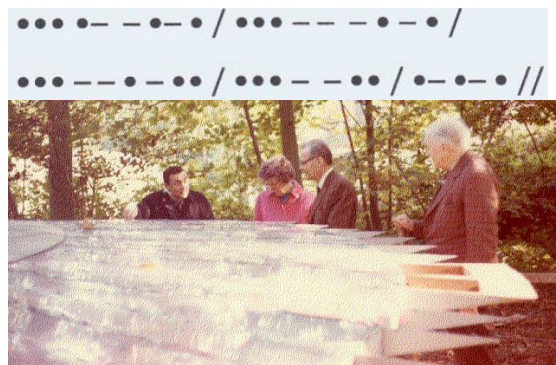
Demand	25	26	27	28	29	30
Probability	0.1	0.1	0.2	0.3	0.2	0.1

Determine the optimum number of loaves the baker must produce in order to maximize profits.

Solution

The various options are shown in the following table for a production level of 28 loaves per day.

De- mand	Num- ber sold	Num- ber unsold	Un- satisfied demand	Conditional profit
25	25	3	0	$750 + 15 - 0 - 420 = 345$
26	26	2	0	$780 + 10 - 0 - 420 = 370$
27	27	1	0	$810 + 5 - 0 - 420 = 395$
28	28	0	0	$840 + 0 - 0 - 420 = 420$
29	28	0	1	$840 + 0 - 4 - 420 = 416$
30	28	0	2	$840 + 0 - 8 - 420 = 412$



Can you name the period of this image and what information happens then?



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

The **conditional profit** in each row is calculated by finding the return: number sold \times 30 + number unsold \times 5, and subtracting the cost: unsatisfied demand \times 4 + number made \times 15. The expected profit when 28 loaves are made is then:

$$0.1 \times 345 + 0.1 \times 370 + 0.2 \times 395 + 0.3 \times 420 + 0.2 \times 416 + 0.1 \times 412 = 400.9p.$$

(Note Working means can be employed as an aid in calculations (see page 37).)

The calculations for the remaining possible production levels are omitted but they are summarized below.

Production	25	26	27	28	29	30
Expected profit	364.2	380.3	393.5	400.9	399.6	392.5

The bakery should produce 28 loaves per day with a maximum expected profit of 400.9p.

DECISION TREES

An oil company wishes to determine whether a particular location is worth drilling or not. The cost of actual drilling is £300 000 and the cost of a preliminary survey to assess the chances of oil being present is £20 000. There are three basic types of field:

A	High yield	Expected income	£800 000
B	Fair yield	Expected income	£400 000
C	Poor yield	Expected income	0

The preliminary survey is not foolproof and past surveys reveal the following predictions about sites which were eventually drilled.

		Actual type of site			Total
		A	B	C	
Predicted type of site	A	6	4	5	15
	B	3	12	5	20
	C	1	4	20	25
Total		10	20	30	60

For example, at three sites, the survey predicted a B-type field when it was in fact an A-type field. Of forty further sites, which were surveyed but never drilled, the initial investigation predicted that 20 were B-type and 20 were C-type fields.

Determine the optimum decision procedure for the exploitation of the location under consideration, assuming that there is no reason to believe that its geological characteristics are any different from the 100 sites already surveyed.

The possible decisions and outcomes are best illustrated by a **decision tree**.

... -- - - - / ... -- - - - /
... -- - - - / ... -- - - - / ... -- - - - //



Searl say that he is not an artist, he wish he was but this supposed to be a fire, Searl knows it does not look like a fire. But can you name what period this represents?



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

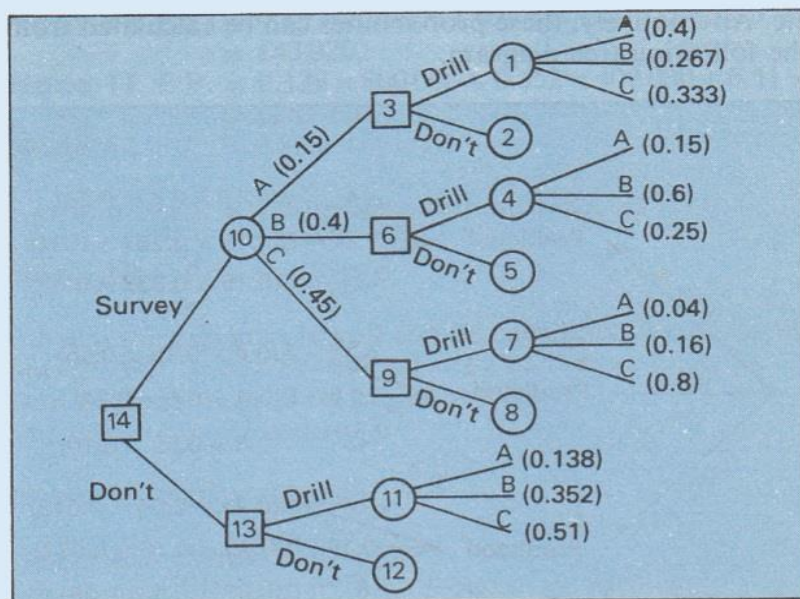


Figure 14. Decision tree

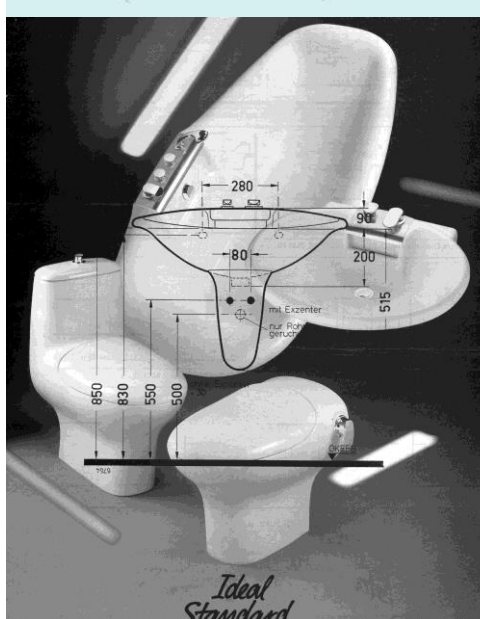
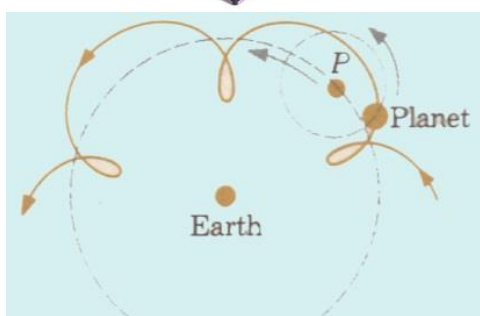
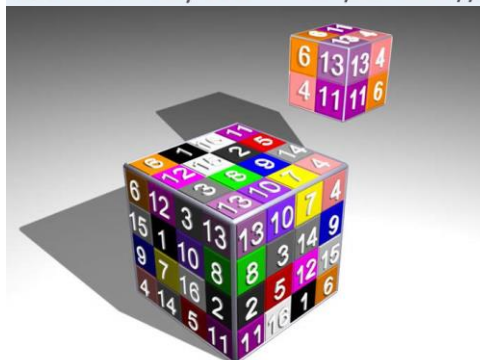
Squares have been used to represent **decision nodes** and circles to represent **outcome nodes**. The probability of each branch has to be included after outcome nodes.

For example, after the decision to survey, the probability that a *B*-type field will be predicted is $40/100 = 0.4$ because out of 100 sites surveyed, a *B* prediction was made 40 times (including the sites never drilled). After the decision to drill, the probability of actually finding an *A*-type field, given that the *B*-type was predicted, is $3/20 = 0.15$, from the second row of the table.

The probabilities in the case of no survey being undertaken include an estimate of the expected number of each type of site in the 40 sites never actually drilled.

		A	B	C	Total
<i>A</i> predicted sites	Drilled	6	4	5	15
	Not drilled	0	0	0	0
<i>B</i> predicted sites	Drilled	3	12	5	20
	Not drilled	3	12	5	20
<i>C</i> predicted sites	Drilled	1	4	20	25
	Not drilled	0.8	3.2	16	20
Total		13.8	35.2	51	100

In the last row of the table, for example, the proportions of each type of site, of the 20 sites which were predicted as *C* but never drilled, are the same as those of the 25 sites which were predicted as *C* and eventually drilled. From the totals row, the probability of finding an *A*-type site is $13.8/100 = 0.138$,



Morris in Thailand with Freddy, Where the S.E.G. was planned to be.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

etc. Alternatively, these probabilities can be calculated from the following tree diagram.

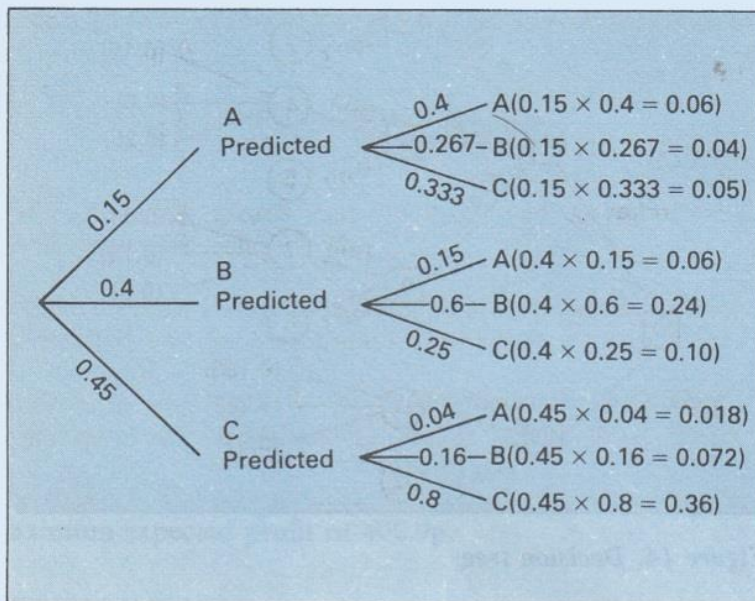


Figure 15. Tree diagram

Therefore, $P(A\text{-type}) = 0.06 + 0.06 + 0.018 = 0.138$.

$P(B\text{-type}) = 0.04 + 0.24 + 0.072 = 0.352$.

$P(C\text{-type}) = 0.05 + 0.10 + 0.36 = 0.510$.

The expected profits (E.P.) can now be calculated by a **backward pass** through the tree.

Node 1 E.P. = $0.4 \times 800\,000 + 0.267 \times 400\,000 + 0.333 \times 0$
= £426 800.

Node 2 E.P. = 0 (no drilling).

Since drilling costs are £300 000, the decision when *A* is predicted must be to drill.

Node 3 E.P. = $426\,800 - 300\,000 = £126\,800$.

Node 4 E.P. = $0.15 \times 800\,000 + 0.6 \times 400\,000 + 0.25 \times 0$
= £360 000.

Node 5 E.P. = 0 (no drilling).

Again, it is worth drilling when *B* is predicted.

Node 6 E.P. = $360\,000 - 300\,000 = £60\,000$.

Node 7 E.P. = $0.04 \times 800\,000 + 0.16 \times 400\,000 + 0.8 \times 0$
= £96 000.

Node 8 E.P. = 0 (no drilling).

Here the E.P. when *C* is predicted is £96 000 and since the cost of drilling exceeds this, the decision is made not to drill.

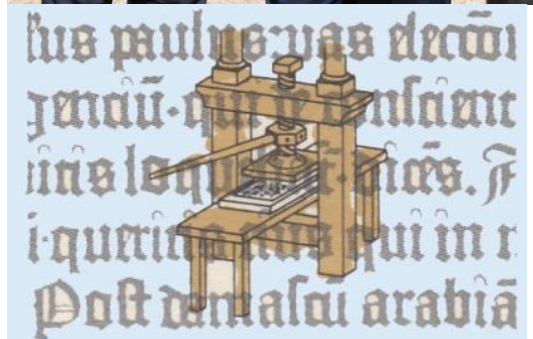
Node 9 E.P. = 0.

The E.P. when a survey is made can be calculated from the values of nodes 3, 6 and 9.

... -- -- -- / ... -- -- -- /
... -- -- -- / ... -- -- -- / ... -- -- //



Name this man?



Can you give the time period of this development and what other things happened? Searl was not in such lack of knowledge, just that schools never taught him, fools made errors on him.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Node 10 E.P. = $0.15 \times 126\,800 + 0.4 \times 60\,000 + 0.45 \times 0$
= £43 020.

Node 11 E.P. = $0.138 \times 800\,000 + 0.352 \times 400\,000 + 0.51 \times 0$
= £251 200.

Node 12 E.P. = 0 (no drilling).

Again, it is not worth drilling without a survey.

Node 13 E.P. = 0.

Finally, the expected payoff can be calculated for Node 14.

Survey: E.P. = $43\,020 - 20\,000 = £23\,020$ from Node 10.

Don't survey: E.P. = £0 from Node 13.

The decision is to survey.

Node 14 E.P. = £23 020.

Optimum procedure

Survey and drill only if *A*- or *B*-types are predicted.

Expected payoff = £23 020.

PERMUTATIONS

A personnel manager has to select two candidates from a shortlist of five, one to be responsible for home sales and the other for foreign sales. In how many ways can the selection be made?

For the first post, the manager may select any one of the five candidates. Having made his choice, he can then choose any of the remaining four. Hence, the total number of possible selections is $5 \times 4 = 20$. Representing the five candidates by the letters A, B, C, D and E, the possible selections are shown below.

AB	BA	CA	DA	EA
AC	BC	CB	DB	EB
AD	BD	CD	DC	EC
AE	BE	CE	DE	ED

Each of these selections is called a *permutation*.

The *order* of the letters is relevant – AB means that A becomes responsible for home sales, whereas BA means that B does. In the above case, the number of permutations of five objects was calculated, taken two at a time, and is written as ${}_5P_2$.

Thus, ${}_5P_2 = 20$.

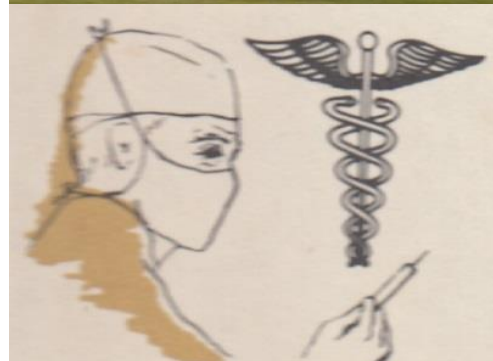
Similarly, ${}_7P_2 = 7 \times 6 = 42$.

${}_7P_3 = 7 \times 6 \times 5 = 210$.

and, ${}_7P_7 = 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 5040$ (the number of ways of arranging seven objects in order).

A formula for the number of permutations in the general case can be obtained by introducing the **factorial notation**:

••• – – ••• / ••• – – ••• /
••• – – ••• / ••• – – ••• / ••• – – ••• //



Name period and what happen then?



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

$$1! = 1, 2! = 2 \times 1 = 2, 3! = 3 \times 2 \times 1 = 6, \\ 4! = 4 \times 3 \times 2 \times 1 = 24, \text{ etc.}$$

Note 0! is defined to be 1 whenever it occurs in a formula.

$$\text{Then, } {}_7P_3 = \frac{7!}{4!} = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{4 \times 3 \times 2 \times 1} = 210 \text{ (as before).}$$

$$\text{and, } {}_7P_7 = \frac{7!}{0!} = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{1} = 5040.$$

$$\text{In general, } {}_nP_r = \frac{n!}{(n-r)!}$$

Example

A tea-taster has to choose the four best brands from a selection of six types of tea and rank them in order. In how many ways can this be done?

Solution

The order is important in this example. The number of permutations ${}_6P_4 = \frac{6!}{(6-4)!}$ by the above formula

$$= \frac{6!}{2!} = \frac{6 \times 5 \times 4 \times 3 \times 2 \times 1}{2 \times 1} = 360.$$

COMBINATIONS

When the ordering of the selection is *unimportant*, the selection is called a **combination**. Suppose that the tea-taster in the above example has simply to choose the best brands without ranking them. Of the 360 permutations above, the following will be in the list: ABCD, ABDC, ACBD, BDAC, etc. (A–F are the brands), in other words, all the permutations containing the letters A, B, C and D (24 of them). Now each of these is equivalent to the single combination ABCD and, by a similar argument, every other combination will be duplicated 24 times in this manner.

Hence, the number of combinations, written as:

$${}_6C_4 = \frac{360}{24} = 15$$

$$\text{In general, } {}_nC_r = \frac{n!}{r!(n-r)!} \quad \text{i.e. } \frac{{}_nP_r}{r!}$$

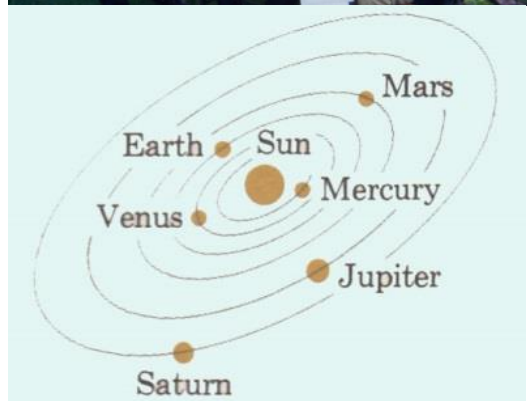
$$\text{For example, } {}_7C_3 = \frac{7!}{3!4!} = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{3 \times 2 \times 1 \times 4 \times 3 \times 2 \times 1} = 35$$

$$\text{and, } {}_7C_5 = \frac{7!}{5!2!} = \frac{7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1}{5 \times 4 \times 3 \times 2 \times 1 \times 2 \times 1} = 21.$$

Example

On a certain Saturday, there were 12 score draws in the

... .. - - - - / - - - - - /
... .. - - - - - / - - - - - / - - - - - //



Can you name the period that this solo system chart was created?



Who was this man?

Yes Searl like to find out how much he is behind you in education? If anything is wrong please inform Searl and you know what you have to do?

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

football league out of 60 matches. If a person has to select 8 games from these 60 on his pools forecast, in how many ways can he select 8 score draws?

Solution

Although selections are often called ‘perms’ in the context of pools forecasting, it clearly does not matter in which order the 8 games are chosen. This is a problem about combinations.

$$\text{Total number of selections} = {}_{60}C_8 = \frac{60!}{8!52!}$$

$$= \frac{60 \times 59 \times \dots \times 1}{8 \times \dots \times 1 \times 52 \times \dots \times 1}$$

$$= \frac{60 \times 59 \times 58 \times 57 \times 56 \times 55 \times 54 \times 53}{8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1} \quad (\text{cancelling } 52 \times \dots \times 1)$$

= 2 558 620 845, i.e., roughly 2.5 thousand million combinations.

Total number of ways of selecting 8 score draws from the 12 score draws:

$$= {}_{12}C_8 = \frac{12!}{8!4!} = \frac{12 \times 11 \times \dots \times 1}{8 \times \dots \times 1 \times 4 \times \dots \times 1}$$

$$= \frac{12 \times 11 \times 10 \times 9}{4 \times 3 \times 2 \times 1} \quad (\text{cancelling } 8 \times \dots \times 1)$$

$$= 495.$$

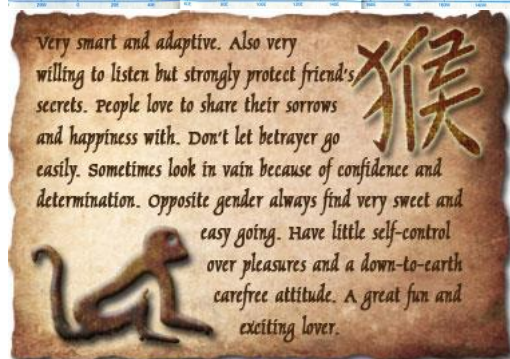
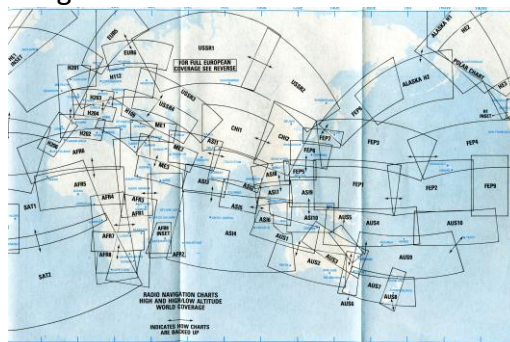
THE BINOMIAL DISTRIBUTION

The calculation of probabilities involving a large number of events is very difficult without the notion of combinations. Suppose that the incidence of occupational disease in a certain industry is 20 % and that it is required to calculate the probability that two out of four workmen will contract the disease. Numbering the workmen 1 to 4 and using D for contracting the disease and N for not contracting it, we have the following possibilities.

1	Workmen			4	Probability (multiplication law)
	2	3			
D	D	N	N		$1/5 \times 1/5 \times 4/5 \times 4/5 = 16/625$
D	N	D	N		$1/5 \times 4/5 \times 1/5 \times 4/5 = 16/625$
D	N	N	D		$1/5 \times 4/5 \times 4/5 \times 1/5 = 16/625$
N	D	D	N		$4/5 \times 1/5 \times 1/5 \times 4/5 = 16/625$
N	D	N	D		$4/5 \times 1/5 \times 4/5 \times 1/5 = 16/625$
N	N	D	D		$4/5 \times 4/5 \times 1/5 \times 1/5 = 16/625$



Can you name the time period of this image?



[Click here to know what Chinese animal you are](#)

Now you begin to understand; Searl does not lack education he teaches it for years now. How is your education? You can see my world in this document

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

The first row means that workmen 1 and 2 both contract the disease. $P(2 \text{ workmen contract the disease}) = 6 \times 16/625 = 96/625$ because the probabilities have to be *added* together (cf. tree diagrams). An easier approach is to use the fact that the six probabilities are the same and are all equal to $(1/5)^2(4/5)^2$, and the number of ways in which two men contract the disease is ${}_4C_2 = 6$ (i.e., choosing the two men from four to have the disease).

Thus, $P(2 \text{ contract the disease})$

$$= {}_4C_2 \times \left(\frac{1}{5}\right)^2 \times \left(\frac{4}{5}\right)^2 = 6 \times \frac{16}{625} = \frac{96}{625}$$

Similarly, $P(0 \text{ contract the disease})$

$$= {}_4C_0 \times \left(\frac{1}{5}\right)^0 \times \left(\frac{4}{5}\right)^4 = 1 \times \frac{256}{625} = \frac{256}{625}$$

$P(1 \text{ contracts the disease})$

$$= {}_4C_1 \times \left(\frac{1}{5}\right)^1 \times \left(\frac{4}{5}\right)^3 = 4 \times \frac{64}{625} = \frac{256}{625}$$

$P(3 \text{ contract the disease})$

$$= {}_4C_3 \times \left(\frac{1}{5}\right)^3 \times \left(\frac{4}{5}\right)^1 = 4 \times \frac{4}{625} = \frac{16}{625}$$

and, $P(4 \text{ contract the disease})$

$$= {}_4C_4 \times \left(\frac{1}{5}\right)^4 \times \left(\frac{4}{5}\right)^0 = 1 \times \frac{1}{625} = \frac{1}{625}$$

Note ${}_4C_0 = \frac{4!}{0!4!} = \frac{24}{1 \times 24} = 1$ and any number to the power zero is defined to be 1, e.g., $\left(\frac{1}{5}\right)^0 = \left(\frac{4}{5}\right)^0 = 1$.

••• – – – • / ••• – – – • /
••• – – – ••• / ••• – – ••• / ••• – ••• //



Searl in his medical training days, now so long ago that time has forgotten,



Time waits for no man/woman. That is why Searl had to pack as much learning in that was possible. Tomorrow may be too late. Why not join me in tomorrow technology.

Searl say, that in each expression, the power of $1/5$ is the number of people with the disease and the power of $4/5$ is the number without it. Searl say that the distribution is graphically represented in Figure P16S.

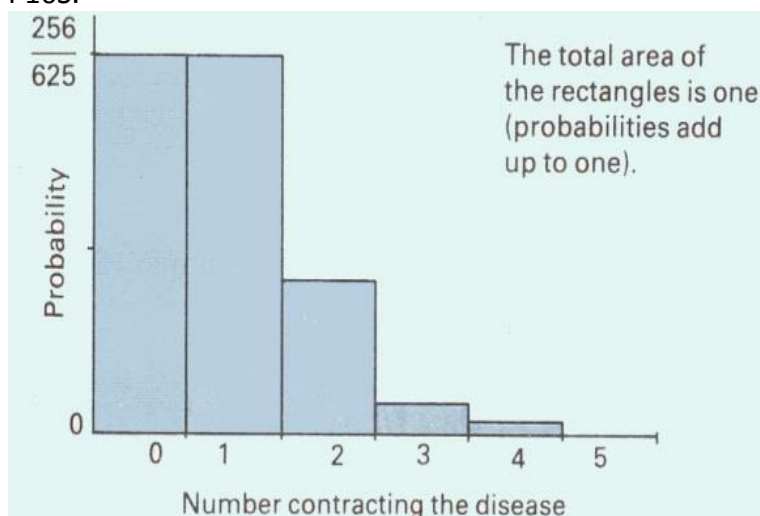


Figure P16s: Binomial distribution:



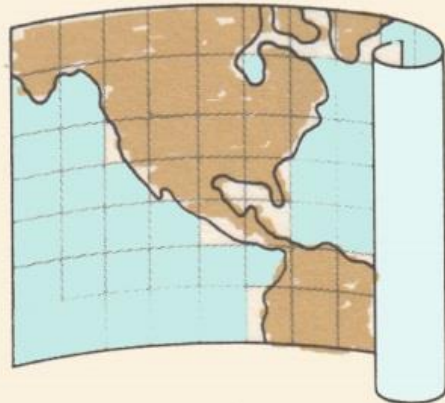
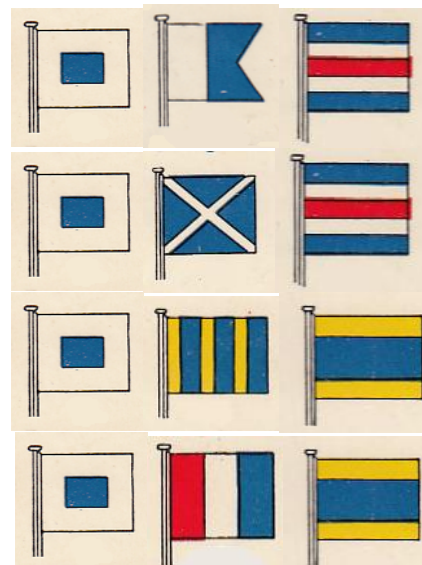
Arithmetic mean: The most commonly used measure of location. It is defined as the sum of a set of data values divided by the number of data values.

Searl: knowledge 1946-1968: Legal: SEARL NO: 013787346: Legal: SEARLE NO: 013787451 – Beware!

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Searl suggest presenting another Table of values to help students to understand what Searl means and again he will use **5%** points of the **F-DISTRIBUTION (ONE-TAIL TEST)** as it vital that you understand how we function with our mathematics.

$v_1 \backslash v_2$	1	2	3	4	5	6	8	12	24	∞
1	161.4	199.5	215.7	224.6	230.2	234.0	238.9	243.9	249.0	254.3
2	18.51	19.00	19.16	19.25	19.30	19.33	19.37	19.41	19.45	19.50
3	10.13	9.55	9.28	9.12	9.01	8.94	8.84	8.74	8.64	8.53
4	7.71	6.94	6.59	6.39	6.26	6.16	6.04	5.91	5.77	5.63
5	6.61	5.79	5.41	5.19	5.05	4.95	4.82	4.68	4.53	4.36
6	5.99	5.14	4.76	4.53	4.39	4.28	4.15	4.00	3.84	3.67
7	5.59	4.74	4.35	4.12	3.97	3.87	3.73	3.57	3.41	3.23
8	5.32	4.46	4.07	3.84	3.69	3.58	3.44	3.28	3.12	2.93
9	5.12	4.26	3.86	3.63	3.48	3.37	3.23	3.07	2.90	2.71
10	4.96	4.10	3.71	3.48	3.33	3.22	3.07	2.91	2.74	2.54
11	4.84	3.98	3.59	3.36	3.20	3.09	2.95	2.79	2.61	2.40
12	4.75	3.88	3.49	3.26	3.11	3.00	2.85	2.69	2.50	2.30
13	4.67	3.80	3.41	3.18	3.02	2.92	2.77	2.60	2.42	2.21
14	4.60	3.74	3.34	3.11	2.96	2.85	2.70	2.53	2.35	2.13
15	4.54	3.68	3.29	3.06	2.90	2.79	2.64	2.48	2.29	2.07
16	4.49	3.63	3.24	3.01	2.85	2.74	2.59	2.42	2.24	2.01
17	4.45	3.59	3.20	2.96	2.81	2.70	2.55	2.38	2.19	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.51	2.34	2.15	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.48	2.31	2.11	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.45	2.28	2.08	1.84
21	4.32	3.47	3.07	2.84	2.68	2.57	2.42	2.25	2.05	1.81
22	4.30	3.44	3.05	2.82	2.66	2.55	2.40	2.23	2.03	1.78
23	4.28	3.42	3.03	2.80	2.64	2.53	2.38	2.20	2.00	1.76
24	4.26	3.40	3.01	2.78	2.62	2.51	2.36	2.18	1.98	1.73
25	4.24	3.38	2.99	2.76	2.60	2.49	2.34	2.16	1.96	1.71
26	4.22	3.37	2.98	2.74	2.59	2.47	2.32	2.15	1.95	1.69
27	4.21	3.35	2.96	2.73	2.57	2.46	2.30	2.13	1.93	1.67
28	4.20	3.34	2.95	2.71	2.56	2.44	2.29	2.12	1.91	1.65
29	4.18	3.33	2.93	2.70	2.54	2.43	2.28	2.10	1.90	1.64
30	4.17	3.32	2.92	2.69	2.53	2.42	2.27	2.09	1.89	1.62
40	4.08	3.23	2.84	2.61	2.45	2.34	2.18	2.00	1.79	1.51
60	4.00	3.15	2.76	2.52	2.37	2.25	2.10	1.92	1.70	1.39
120	3.92	3.07	2.68	2.45	2.29	2.17	2.02	1.83	1.61	1.25
∞	3.84	2.99	2.60	2.37	2.21	2.09	1.94	1.75	1.52	1.00



Can you date this image and facts of the time? If you can then you are what we need in future staff.

Average: A general term for a measure of location such as the mean, median or mode although it tends to be loosely applied to the mean alone.

Average outgoing quality: The expected proportion or percentage of defective articles in a lot after inspection.

Balking: A queuing strategy; a customer does not enter a system because the queue is too long.

Searl remind you of what terms he uses in this report means – thus there be no misunderstanding.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

This is an example of a **discrete probability distribution** – the variable is the number of workmen with the disease and the vertical axis represents *probability* instead of *frequency*.

The particular distribution in this example is called the **binomial distribution** which has the following definition.

In n independent realizations of an event, each of which has probability p of success, probability $q = 1 - p$ of failure, the probability $P(r)$ of obtaining r successes is given by $P(r) = {}_nC_r p^r q^{n-r}$.

In the example of the workmen, $n = 4$, $p = 1/5$, $q = 4/5$ and a 'success' is equivalent to contracting the disease. The events (contracting the disease or not) must be independent. Here, n , p and q are called the **parameters** of the binomial distribution.

Example

The percentage of defective articles produced by a machine is 5%. The articles are packed in boxes of 10. Find the probabilities of the following.

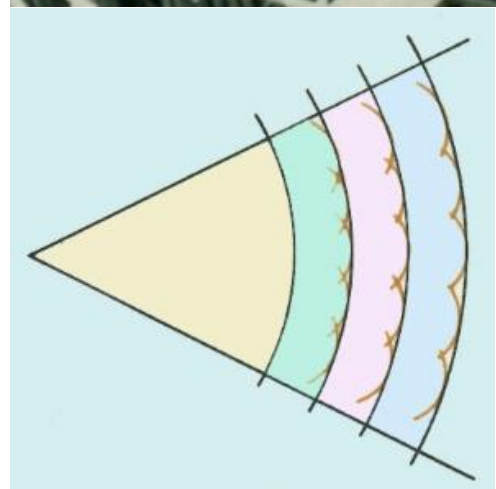
1. A box containing no defective articles.
2. A box containing three defective articles.
3. A box containing more than one defective article.

Solution

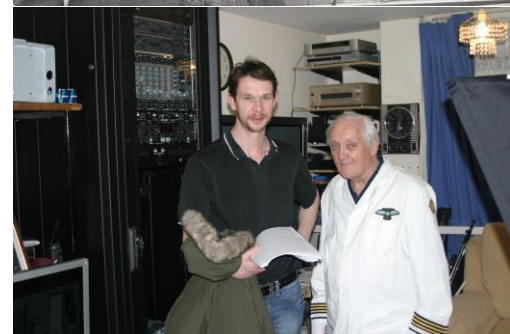
In this problem, the assumption of independence is justified and $n = 10$, $p = 0.05$ and $q = 0.95$, a 'success' being defined as an article that is defective.

1. $P(0 \text{ defectives}) = {}_{10}C_0 (0.05)^0 (0.95)^{10}$
 $= (0.95)^{10}$
 $= 0.599$, to three decimal places.
2. $P(3 \text{ defectives}) = {}_{10}C_3 (0.05)^3 (0.95)^7 = 0.010$, to three decimal places, since
 ${}_{10}C_3 = \frac{10!}{3!7!} = \frac{10 \times 9 \times 8}{3 \times 2 \times 1} = 120$ (cancelling 7!).
3. If the box contains more than one defective, it can contain 2, 3, ..., 9 or 10 defectives. The direct approach would be to find the probability of each of these events and add them together. Clearly, this will be a very long task and it is easier to find the opposite probability of getting 0 or 1 defectives and deducing the answer from this.
 $P(1 \text{ defective}) = {}_{10}C_1 (0.05)^1 (0.95)^9 = 10 \times 0.05 \times (0.95)^9$
 $= 0.315$, to three decimal places.
 $\therefore P(0 \text{ or } 1 \text{ defective}) = P(0) + P(1) = 0.599$
 $= 0.914$, using part 1.
 $\therefore P(\text{more than } 1 \text{ defective}) = 1 - 0.914$,
 $= 0.086$, to three decimal places.

... - - - - - / ... - - - - - /
 ... - - - - - / ... - - - - - / - - - - - //



Can you name the time period and what took place around that time?



We are coming to help the USA.

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

MEAN AND STANDARD DEVIATION

A probability distribution has a mean and standard deviation just as a frequency distribution does. The formulae are:

Mean or expected value $\mu = \sum xp(x)$.

Variance $\sigma^2 = \sum (x - \mu)^2 p(x)$.

Here, x represents the values of the variable, $p(x)$ the corresponding probabilities and the Greek letters μ and σ are used instead of \bar{x} and s because these are theoretical values (cf. the formulae on pages 17 and 36).

For the binomial distribution with parameters $n = 4$, $p = 0.25$ and $q = 0.75$, the calculation is given below.

Number of successes	Probability $p(x)$	$xp(x)$	$x - \mu$	$(x - \mu)^2$	$(x - \mu)^2 p(x)$
0	81/256	0	-1	1	81/256
1	108/256	108/256	0	0	0
2	54/256	108/256	1	1	54/256
3	12/256	36/256	2	4	48/256
4	1/256	4/256	3	9	9/256
	1	1			192/256 = 0.75

The sum of probabilities, $\sum p(x)$, is always one for a probability distribution.

Mean $\mu = \sum xp(x) = 1$.

Variance $\sigma^2 = \sum (x - \mu)^2 p(x) = 0.75$.

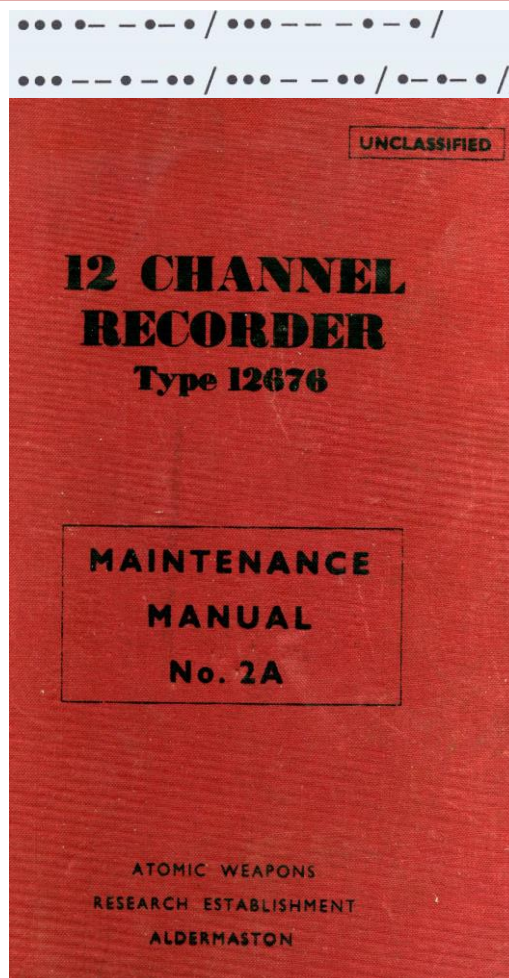
Standard deviation $\sigma = \sqrt{0.75} = 0.866$, to three decimal places.

Note The expected number of successes in this example can be deduced very easily – if the probability of a success is 0.25 and four trials are made, the average number of successes will be $4 \times 0.25 = 1$.

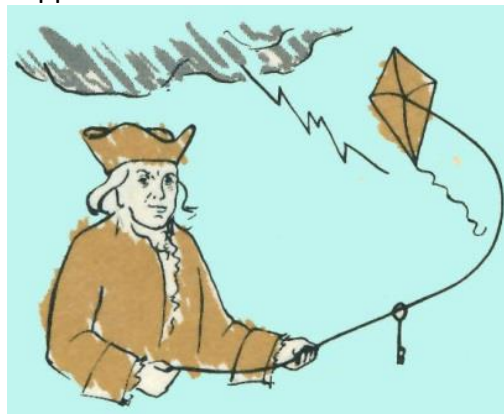
For the binomial distribution with parameters n , p and q , it can be proved that

$$\mu = np \quad \text{and} \quad \sigma = \sqrt{npq}.$$

In this example, $\mu = 4 \times 0.25 = 1$ and $\sigma = \sqrt{4 \times 0.25 \times 0.75} = \sqrt{0.75} = 0.866$ as before.



Rev. George Nicholson: Brought me 10 of these units as a thank you for extending his life. Sad he has departed 10 years later than expected. The media never like him due to his support of Israel.



What time period did this take place and what other things took place? Knowledge is great if you know how to use it, say Searl. If not it could be dangerous. But it's up to you to learn!

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

These two formulae are extremely important and will be referred to again in the next chapter.

POISSON DISTRIBUTION

This distribution is another **discrete** probability distribution and has been found to describe a wide range of random phenomena including the occurrence of accidents or failures, arrivals of calls at a switchboard, arrivals of customers to a queue and radioactive disintegrations and emissions.

The distribution is described by the formula:

$$P(x \text{ occurrences}) = e^{-\mu} \frac{\mu^x}{x!} \quad \text{for } x = 0, 1, 2, 3, 4, \dots$$

The only **parameter** of the Poisson distribution is μ , which represents the average number of occurrences; e is the **Euler number** and has a value of 2.7182818 to seven decimal places.

For example, a switchboard receives, on average, two calls per minute. The probabilities of receiving 0, 1, 2, ..., 8 calls in a one-minute interval are shown below using a value of $\mu = 2$ (mean number of calls per minute).

$$P(0 \text{ calls}) = e^{-2} \frac{2^0}{0!} = e^{-2} \times \frac{1}{1} = 0.135.$$

$$P(1 \text{ call}) = e^{-2} \frac{2^1}{1!} = e^{-2} \times \frac{2}{1} = 0.271.$$

$$P(2 \text{ calls}) = e^{-2} \frac{2^2}{2!} = e^{-2} \times \frac{4}{2} = 0.271.$$

$$P(3 \text{ calls}) = e^{-2} \frac{2^3}{3!} = e^{-2} \times \frac{8}{6} = 0.180.$$

$$P(4 \text{ calls}) = e^{-2} \frac{2^4}{4!} = e^{-2} \times \frac{16}{24} = 0.090.$$

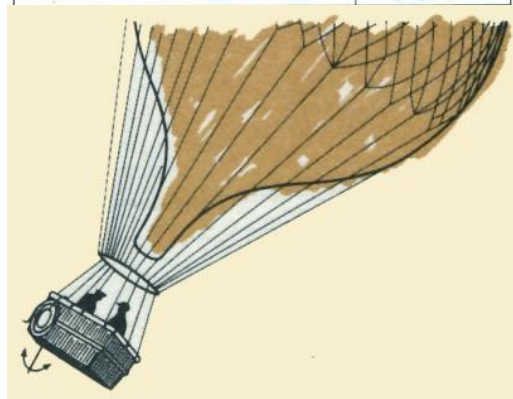
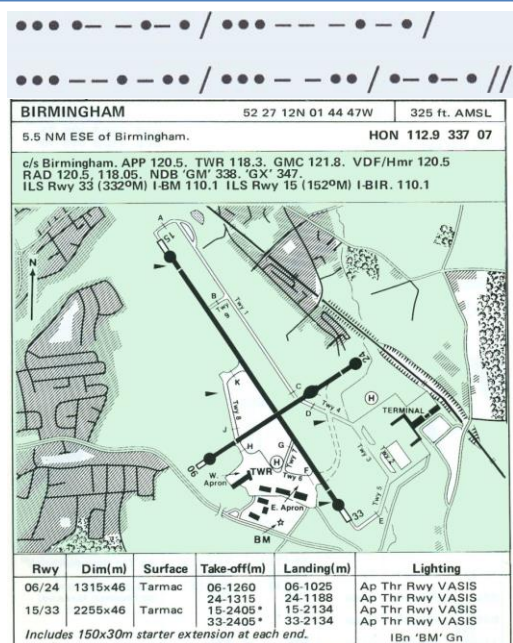
$$P(5 \text{ calls}) = e^{-2} \frac{2^5}{5!} = e^{-2} \times \frac{32}{120} = 0.036.$$

$$P(6 \text{ calls}) = e^{-2} \frac{2^6}{6!} = e^{-2} \times \frac{64}{720} = 0.012.$$

$$P(7 \text{ calls}) = e^{-2} \frac{2^7}{7!} = e^{-2} \times \frac{128}{5040} = 0.003.$$

$$P(8 \text{ calls}) = e^{-2} \frac{2^8}{8!} = e^{-2} \times \frac{256}{40320} = 0.001.$$

(The remaining probabilities gradually get nearer and nearer to zero.)



Can you say what time period we are looking at and what other actions were taking place?



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Note e^{-2} means the reciprocal of the square of e.

Graphically, this Poisson distribution has the form shown in Figure 17.

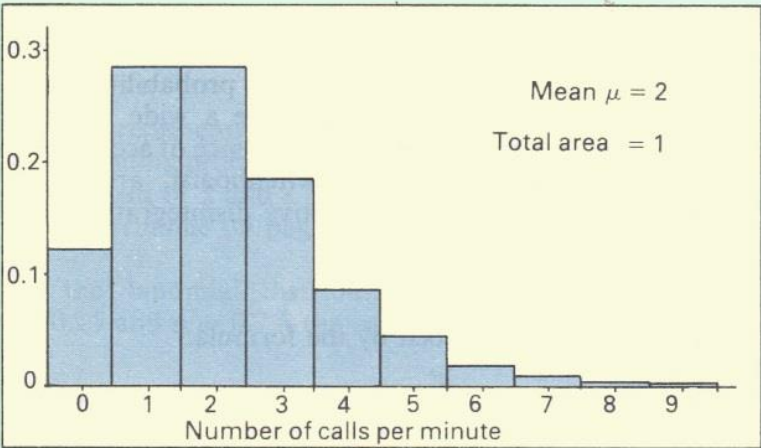


Figure 17. Poisson distribution

Using this distribution, the probability of obtaining at least one call in a length of interval of two minutes can be evaluated simply by changing the value of μ .

In one minute, mean number of calls = 2.
In two minutes, mean number of calls = 4, i.e., $\mu = 4$ now.

$$P(0 \text{ calls in two minutes}) = e^{-4} \frac{4^0}{0!} = e^{-4} = 0.018.$$

$$P(\text{at least one call}) = 1 - 0.018 = 0.982.$$

Note The standard deviation of a Poisson distribution with parameter μ is $\sqrt{\mu}$.

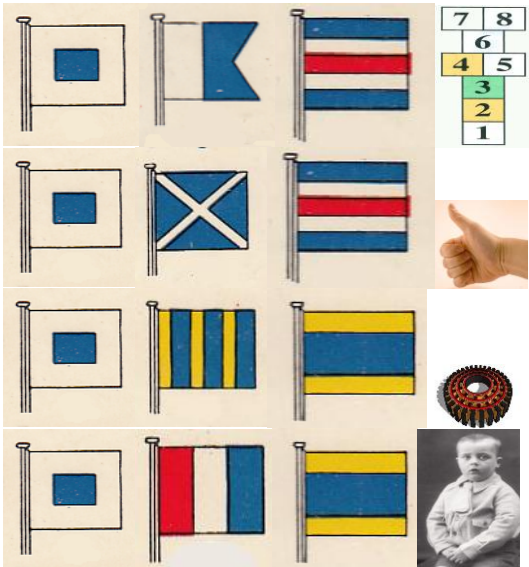
Example

A warehouse finds that, on average, three components of a certain type are required every month. To what level must stock be made up every month in order that there will be a less than 10% chance of running out of stock?

Solution

This may be determined by evaluating the **cumulative probabilities**.

Number required	Probability	Cumulative probability
0	$e^{-3} \frac{3^0}{0!} = 0.050$	0.050 $P(0 \text{ needed})$
1	$e^{-3} \frac{3^1}{1!} = 0.149$	0.199 $P(\leq 1 \text{ needed})$
2	$e^{-3} \frac{3^2}{2!} = 0.224$	0.423 $P(\leq 2 \text{ needed})$



What is happening here and at what time period?



SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

Number required	Probability	Cumulative probability
3	$e^{-3} \frac{3^3}{3!} = 0.224$	0.647 $P(\leq 3 \text{ needed})$
4	$e^{-3} \frac{3^4}{4!} = 0.168$	0.815 $P(\leq 4 \text{ needed})$
5	$e^{-3} \frac{3^5}{5!} = 0.101$	0.916 $P(\leq 5 \text{ needed})$

If the warehouse brings stock up to five components every month, the probability of demand exceeding this during the next month is $1 - 0.916 = 0.084$, i.e., 8.4%.

BINOMIAL APPROXIMATION

An insurance company finds that the probability of a person dying within one year is 0.0004. Find the probability that there will be: 0 claims; 5 claims from the 10 000 policy holders during the next year.

This is a binomial distribution with parameters $n = 10\,000$, $p = 0.0004$ and $q = 0.9996$. Therefore,

$$P(0 \text{ claims}) = (0.9996)^{10\,000} = 0.018.$$

$$P(5 \text{ claims}) = {}_{10\,000}C_5 (0.0004)^5 (0.9996)^{9995}.$$

(The last expression is very difficult to calculate.)

Alternatively, the Poisson distribution can be used as an approximation of the binomial distribution when n is large (> 100) and p is small (< 0.05).

Mean $\mu = np = 10\,000 \times 0.0004 = 4$ (see page 60).

Therefore, $P(0 \text{ claims}) = e^{-4} = 0.018$. (In fact the approximation is correct to four decimal places.)

$$P(5 \text{ claims}) = e^{-4} \frac{4^5}{5!} = e^{-4} \times \frac{1024}{120} = 0.156.$$

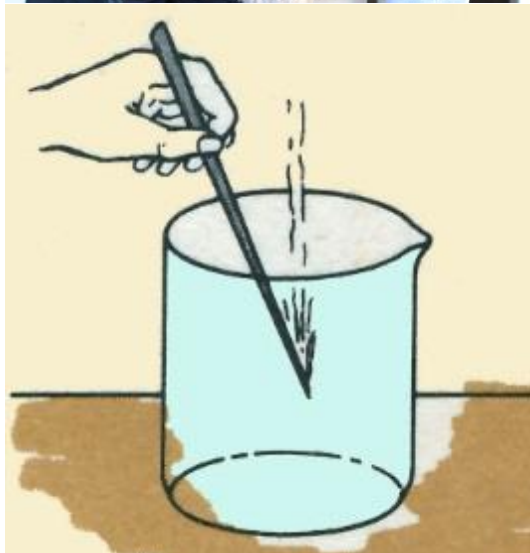
NORMAL APPROXIMATION TO THE BINOMIAL

The binomial distribution can also be approximated by a normal distribution. This approximation is fairly accurate when n is larger than 20 and p is not too close to 0 or 1. For values of p near to 0 or 1, the value of n has to be larger to remove the skew of the binomial distribution. To find the probability of obtaining 55 or more heads when a fair coin is tossed would, for example, be a very time consuming task if the binomial probabilities had to be used. The normal approximation, however, is simple to apply (see page 60).

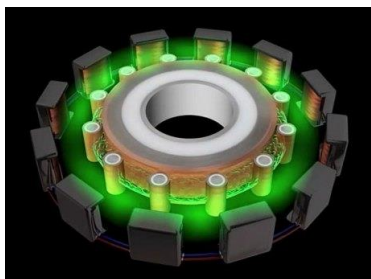
$$\mu = np = 100 \times 0.5 = 50.$$

$$\sigma^2 = npq = 100 \times 0.5 \times 0.5 = 25.$$

$$\sigma = 5.$$



Can you guess what image represent and when?



7	8
	6
4	5
	3
	2
	1

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

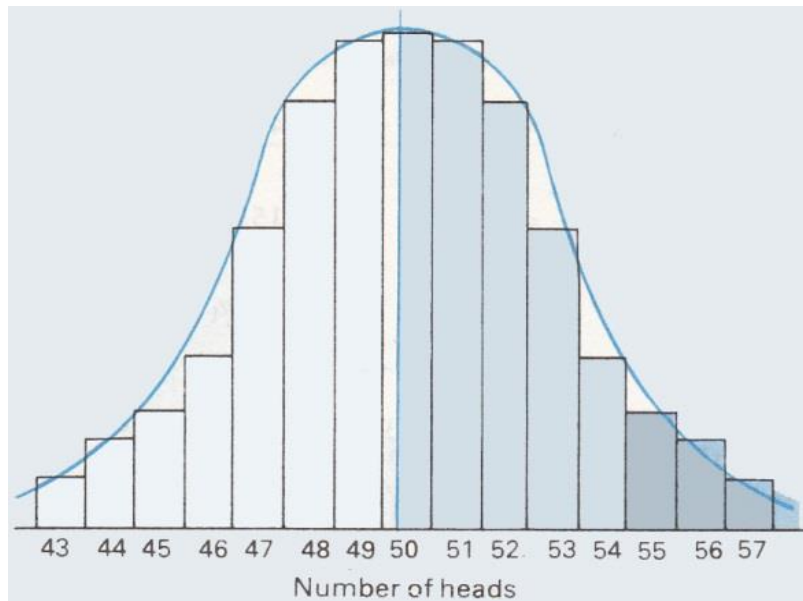


Figure P18S: Normal approximation to the binomial:

The graph shows the binomial distribution with the normal distribution fitted. The shaded area represents the probability of obtaining 55 heads or more. A correction has to be made because the binomial distribution applies to **discrete** variables (the number of heads must be a whole number) whereas the normal distribution applies to **continuous** variables (all values being possible). From the graph, the shaded area begins at 54.5 because the mid-points of each rectangle represent the number of heads.

$$54.5 \text{ is } \frac{54.5 - 50}{5} = 0.9 \text{ standard deviations above the mean.}$$

From normal tables,

area up to 0.9 is 0.8159,
 \therefore area beyond 0.9 is $1 - 0.8159 = 0.1841$,
 $P(55 \text{ or more heads}) = 0.1841$.

Note A similar approximation may be applied to the Poisson distribution when $\mu > 25$. The mean and standard deviation of the approximating normal distribution are μ and $\sqrt{\mu}$ respectively.

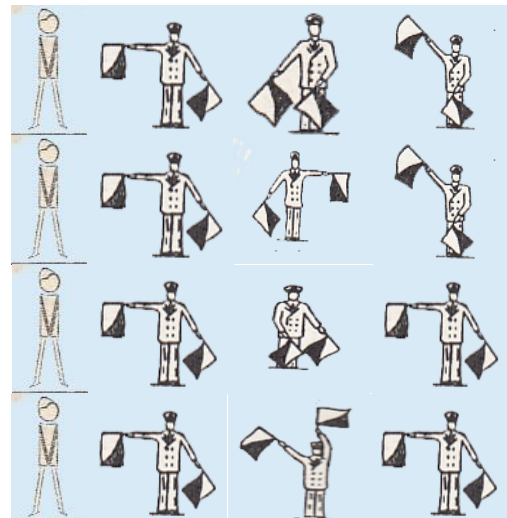
Example

A telephone exchange deals with an average of 200 calls per minute. However, the maximum number of calls per minute that the exchange can handle is only 190. Find the proportion of the time the system is overloaded.

Solution

$$\mu = 200.$$

$$\sigma = \sqrt{200} = 14.14.$$



What time period this relates to? It is not 2015 Searl say. Is he right?

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SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES

Searl say using the normal approximation, the results can be seen in Figure P19S below:

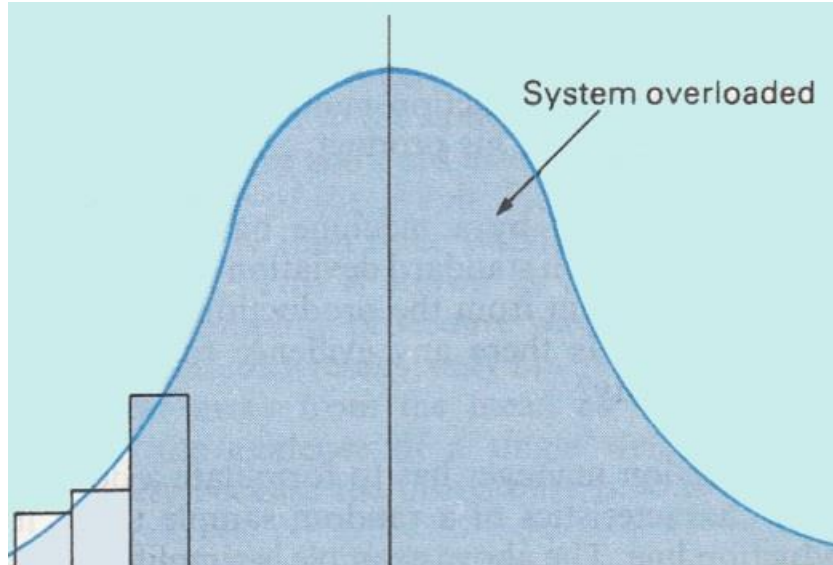


Figure P19S: Normal approximation to the Poisson:

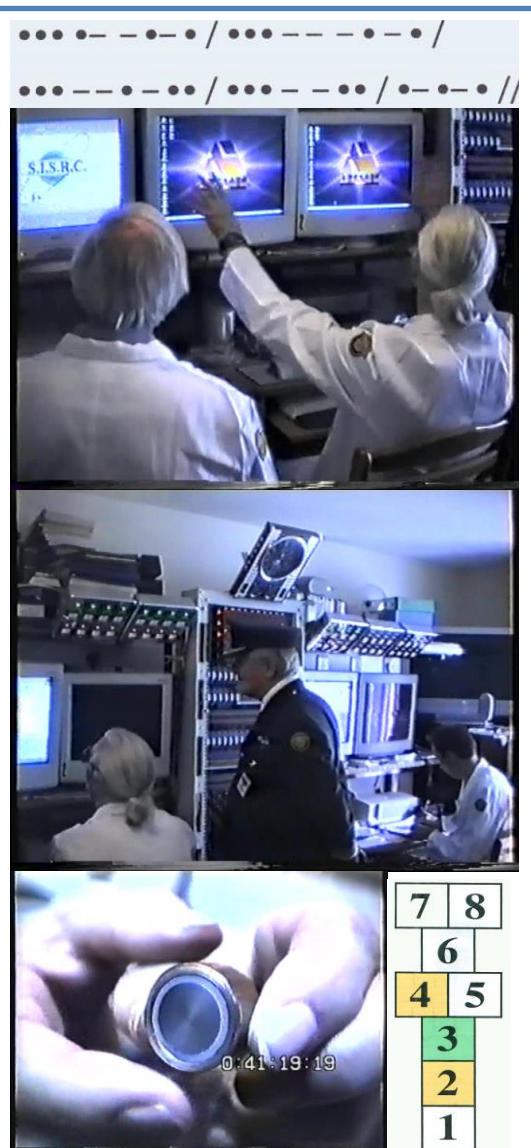
The shaded area represents the probability of 191 or more calls per minute. This area begins at 190.5.

Standardized normal variate

$$= \frac{190.5 - 200}{14.14} = -0.67.$$

From normal tables the area up to +0.67 is 0.7486. By symmetry, this is the same as the shaded area above. Therefore, $P(\text{system overloaded}) = 0.7486 \approx 75\%$.

The system is overloaded 75% of the time.



Searl is closing volume one down at this stage to get a section of the 1000 page on the move. It is a document which covers many things relating to Searl life and work. From which students can study and learn as Searl did. Searl hope this document will become something of interest to many. First, it is by a person who had no formal education as most of you did. Face with the task of keeping an employment had to work hard. Being deaf and suffering other major health problems as Searl is still fighting today. Searl agree that he is sad to see the publicity on Sir Edward Heath who is dead today was the prime minister of the UK during 1970 to 1974. A sailor, and who sail in major races as sport. If he was gay, which Searl doubt then it is no one's business, as long as he does his duties as Prime Minister. Yes Searl agree anyone can pick up a bad egg unaware of that person status. Searl agree that his impression was he was sea mad.



If: Searl had given a S.E.G. to Sir Edward Heath. He could had sail around the world and be home in time for tea. Hi Ted sorry to see that the media is giving you a hard time.

Searl: knowledge 1946-1968: Legal: SEARL NO: 013787346: Legal: SEARLE NO: 013787451 – Beware!

SEARL GLOBAL TECHNOLOGIES – STATISTICS-AVERAGES:

List answers to questions in Volume. 1

Page 184: Name the period and where this image belongs: **Time period = 3000 350 B.C.: CIRCA 3000 B.C.:**

Bablonians measure time. Pyramid kings. Egypt. **2000 – 1000 B.C:** Code of Hammurabi. Babylonia, Medicine study in Egypt. Chinese use magnetic compass.

Page 185: Period **200 B. C. – 1200 A.D. (second image down)** Can you give a date for it: **Circa 250 B.C.:** Archimedes studies lever, hydrostatics, and mathematics. Euclid develops plane geometry. Eratosthenes estimates circumference of the earth.

Page 186: Can you name this man what made him famous: His name was **Wilhelm Conrad Röntgen, 1845-1923:**

Page 189: Can you name this period: **(second image down) 1250-1550: circa 1250:** Exploration, discovery spark Renaissance. Roger Bacon stresses experiment. Thomas Aquinas exemplifies scholastic philosophy. Italian Petrarch writes poetry.

Page 190: What period of time this image represents: **Circa 500 B.C.** Pythagoras names four elements: fire, water, earth, and air. Studies geometry, musical intervals: proves famed theorem. Rise of Athenian civilization.

Page 191: What time period was this solar system chart created: **(second image down) circa 100 B.C.** Ptolemaic theory assumes earth to be fixed center of universe. Lucretius stresses atomic theory in “De Rerum Natura”. Galen systematizes medicine: Roman dictatorships.

Page 192: (Top picture): who is he? His name was Astronaut Gene Cernan in the **Apollo 17** command module on **14 December 1972** he became the last human to stand on the surface of the **Moon. (The bottom image): circa 1450** Gutenberg invents movable type. **1492:** Columbus discovers America. **c 1502: de Vinci** – physics, chemistry, astronomy, geology, Michelangelo sculpts “David”.

Page 193: Name period and then what happens? **(Second image down) circa 400 B.C:** Hippocrates: medicine. Plato: philosophy. Democritus: atomic theory. **350 B.C:** Aristotle classifies animals, writes first physics textbook. Alexander reigns.

Page 194: Can you name the period of this image **(second from top)? Circa 1500:** Copernicus’s “De Revolutionibus Orbis Terrarum” presents new view of solar system. Paracelsus weds chemistry to medicine. Agricola founds mineralogy. **(Bottom Photo)** who is this man? **Yuri Alekseyevich Gagarin** first Soviet pilot and Cosmonaut to go into space on **12th April 1961:** Lived from **March 09, 1934 to March 27, 1968** age **34 years.**

Page 195: (second image from top) Can you name this time period? **Circa 1200 A.D:** Omar Khayyam, Persian poet and mathematician. Al Hazen (Arabia): optics. Fall of the Roman Empire. Christianity flourishes. Middle Ages Start of Town life.

Page 197: (Bottom image): Period **1550-1640: circa 1500:** Protestant Reformation. Elizabethan Period: Shakespeare. Francis Bacon: experimental method, inductive philosophy. Mercator develops map projection, ocean charts.

Page 198: (second image down): Period **1640-1700: circa 1640:** France flourishes under **Louis XIV.** Harvard founded **1636.** Yale **1701. 1658:** Huygens develops wave theory of light. Philosophers Hobbes and Locke: Writers Dryden and Defoe.

Page 199: (lower image): Period **1750-1800: circa 1750:** Franklin draws atmospheric electricity to conductor, 1750. Britain colonizes widely. Watt improves steam engine. Philosophers Kant, Rousseau, Bentham.

Page 200: (second image down) Period **1750-1800: circa 1775:** Cavendish discovers **hydrogen H. 1. 1766.** Montgolfier brothers raise balloons. **1773.** U.S. adopts Constitution. **1789.** Priestly discovers **oxygen O. 8. 1772:** Lefrange: “Mechanique Analytique”. The top image is of **Birmingham UK airport data for pilots landing** there, which I have also done.

Page 201: (second image down): Period **1550-1640: circa 1630:** Harvey reveals circulation of the blood. Snell studies light refraction. **1632** Galileo’s “Systems of the world” condemned by Inquisition; Torricelli: barometer. Guericke: air pump.

Page 202: (second image down): Period **1750-1800: circa 1790:** Lavoisier finds **oxygen O.8** supports combustion: Founds modern chemistry. Benjamin Thompson (**Count Rumford**) proves **mechanical theory of heat.** The philosophical magazine founded.

Page 203: (bottom image): Period **1550-1640: circa 1600:** Gilbert writes “De Magnete”. America colonized. Microscope, telescope invented. **1609:** Galileo confirms Copernican theory. Kepler’s optics, laws of planetary motion.

Searl knowledge: 1946-1968: Legal: SEARL NO: 013787346: Legal: SEARLE NO: 013787451.

In closing volume one, we like to wish all readers a long and happy life, from the men of the future producing clean technology here in the U.S.A. which is meant to be.



Watch out for our lectures and demonstrations of tomorrow's energy and transportation systems.
America deserves clean water, clean air and good food. We are determined to deliver the goods.
Your help would speed up our efforts. God bless America.